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【書類名】 図面

【特許】 2002-364979 (14. 12.)

12. 17

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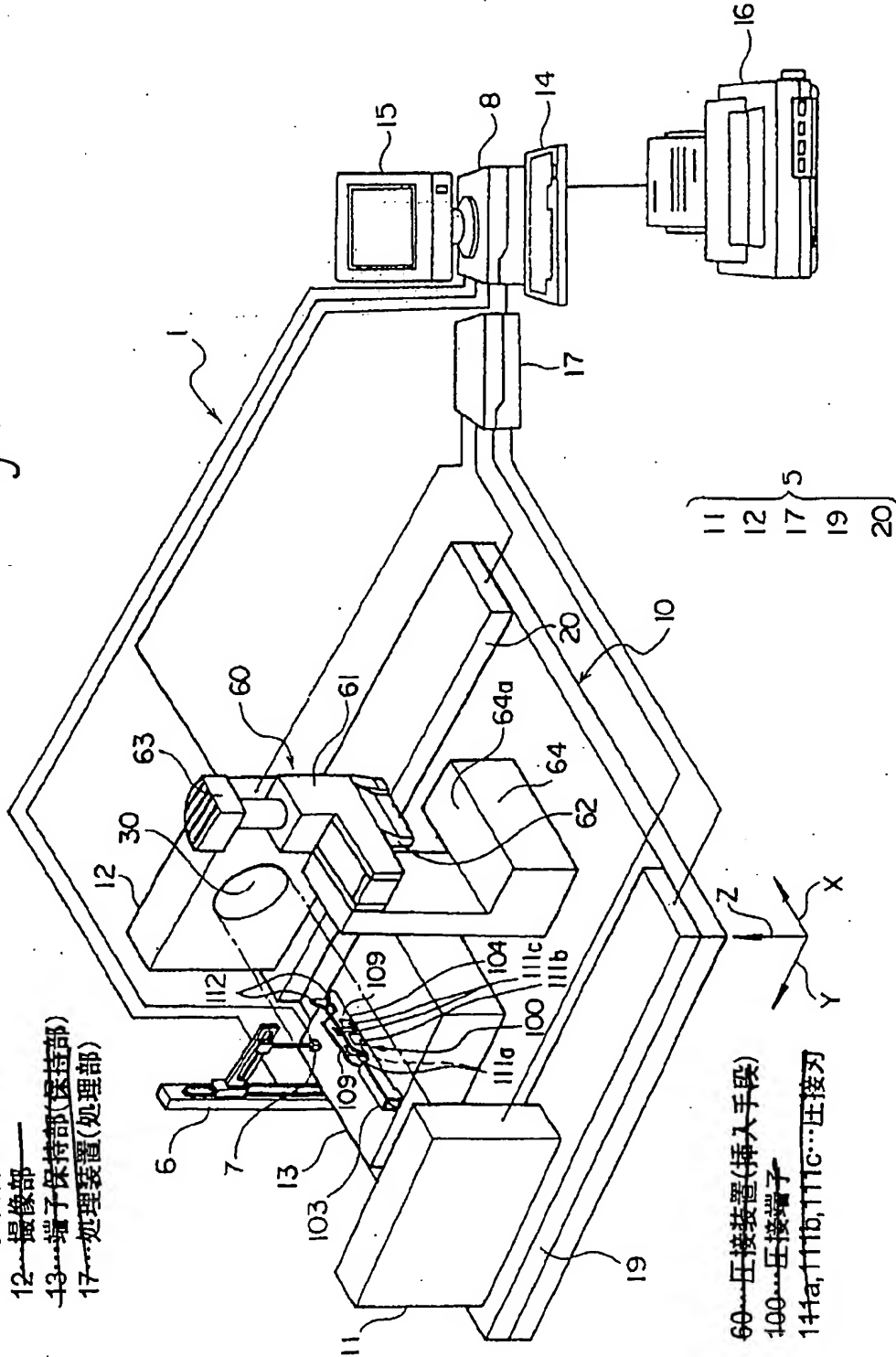
【書類名】

図面

【図1】

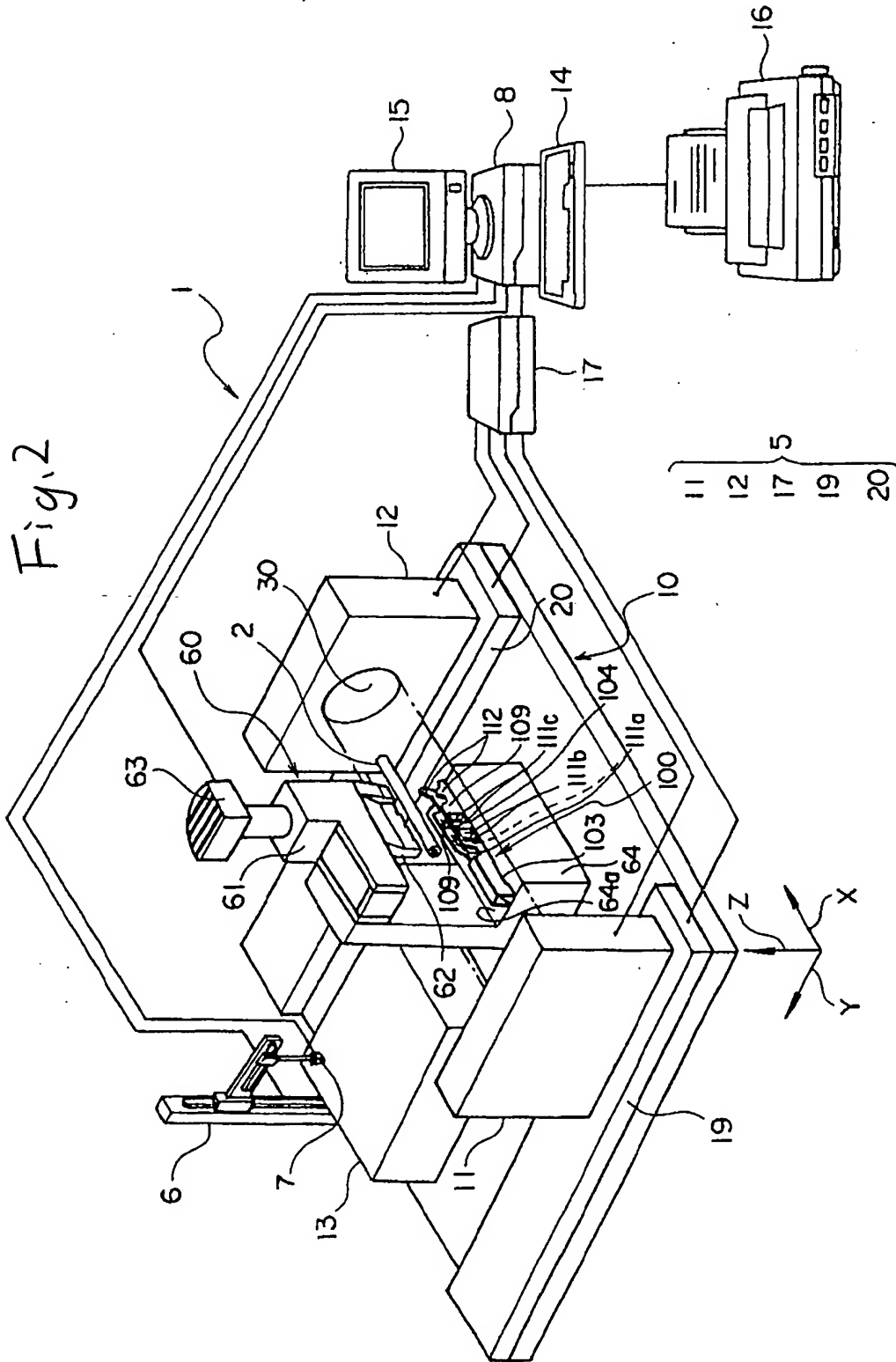
Fig. 1

- 1...圧接端子の良否判定装置
- 5...測定装置(測定手段)
- 7...圧電素子(検出子)
- 14...発光部
- 12...撮像部
- 13...端子保持部(保持部)
- 17...処理装置(処理部)



- 60...圧接装置(挿入手段)
- 100...圧接端子
- 144a, 144b, 144c...圧接刃

〔図2〕



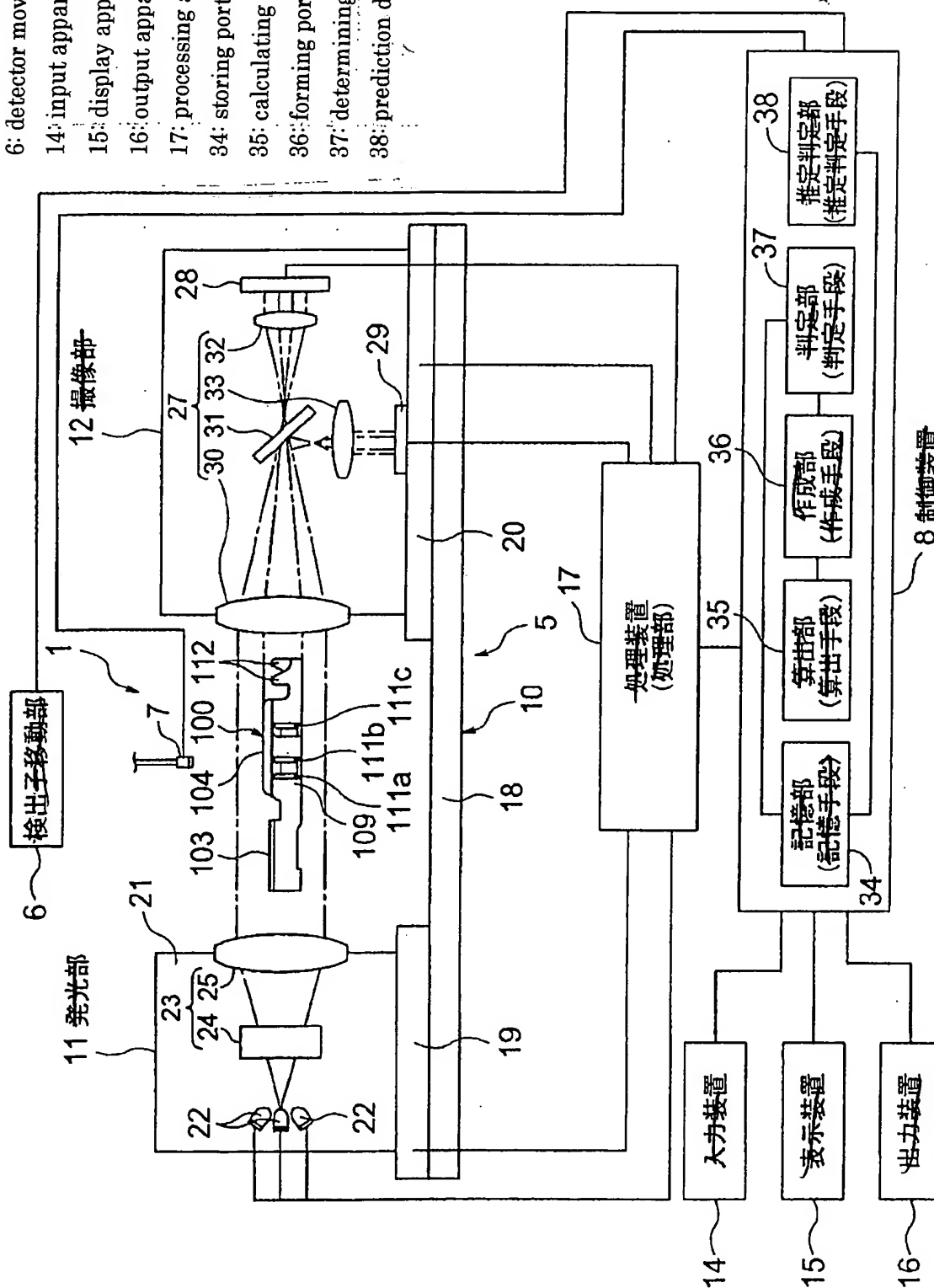
## 15: display apparatus

## 17: processing apparatus

### 35: calculating portion

37.<sup>1</sup> determining portion

38: prediction determining portion





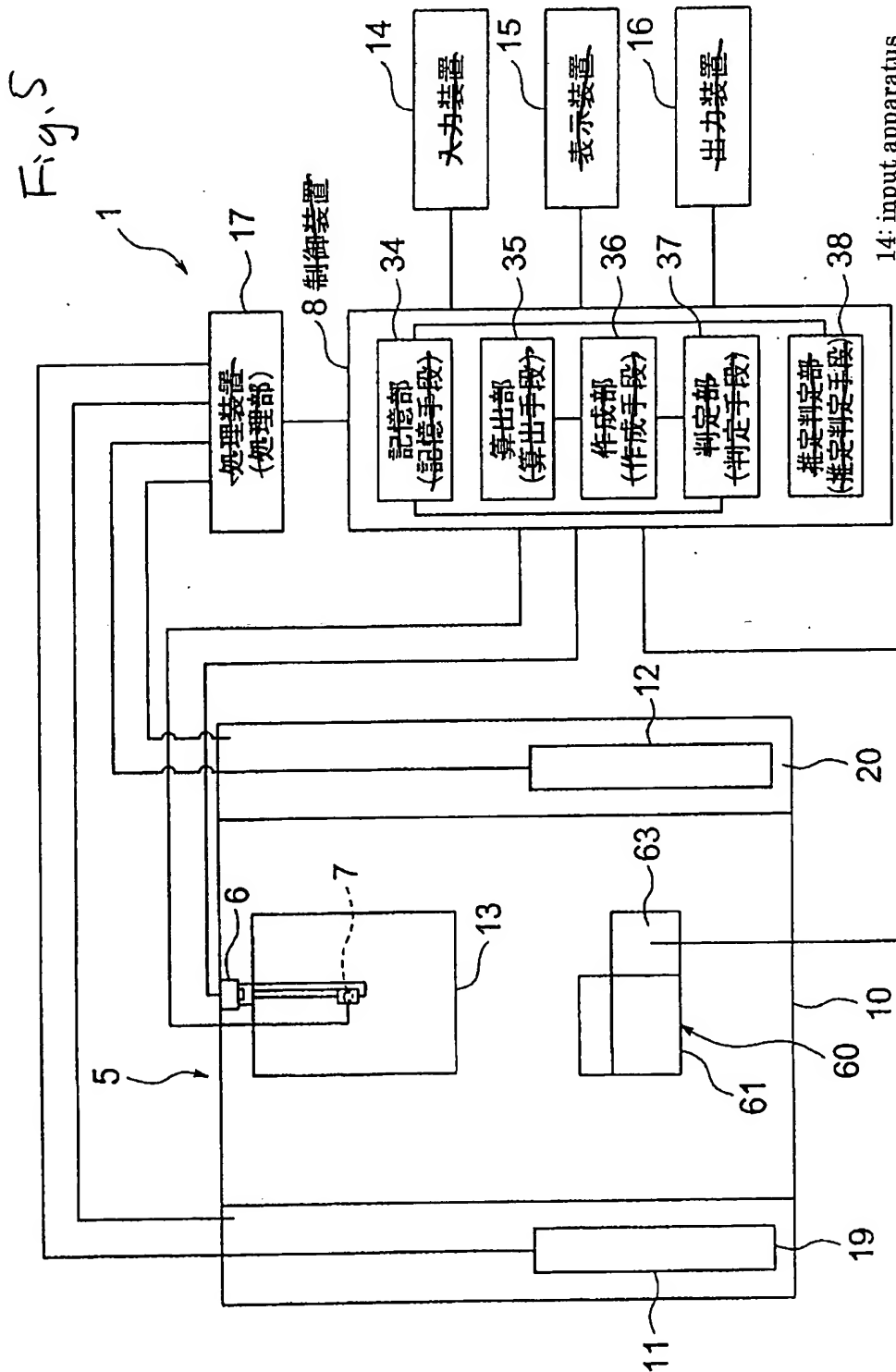
- 14: input apparatus  
15: display apparatus  
16: output apparatus  
17: processing apparatus  
34: storing portion  
35: calculating portion  
36: forming portion  
37: determining portion  
38: prediction determining portion

[書類名] 図面

[特許] 2002-364979 (14. 12)

12. 17

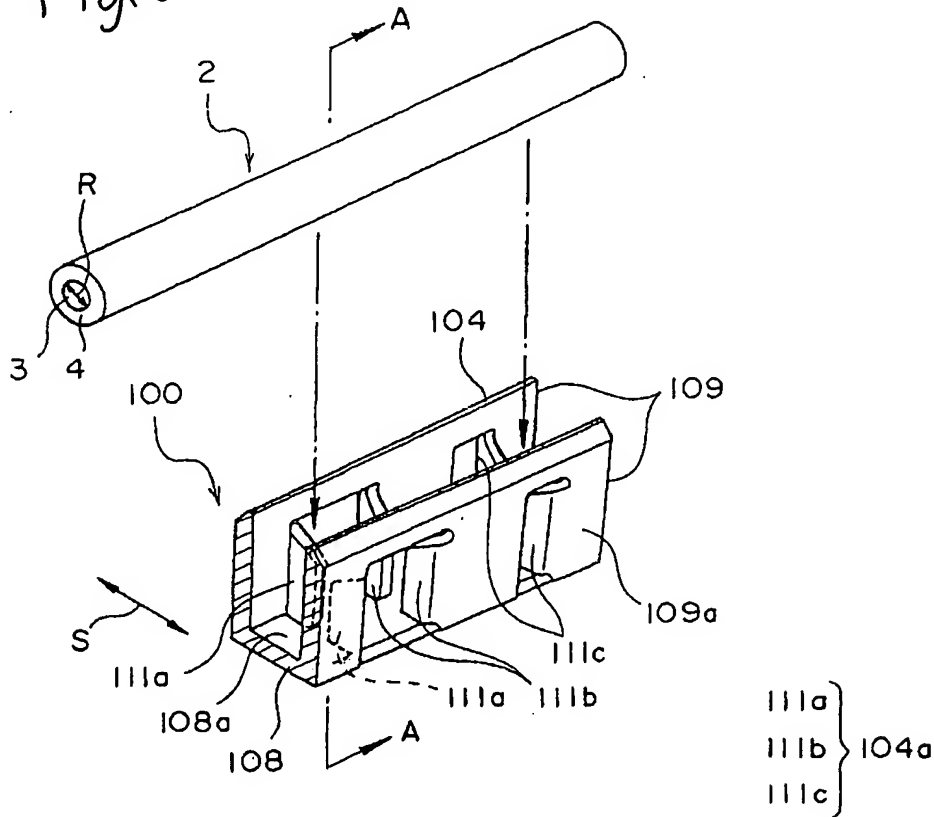
[図5]



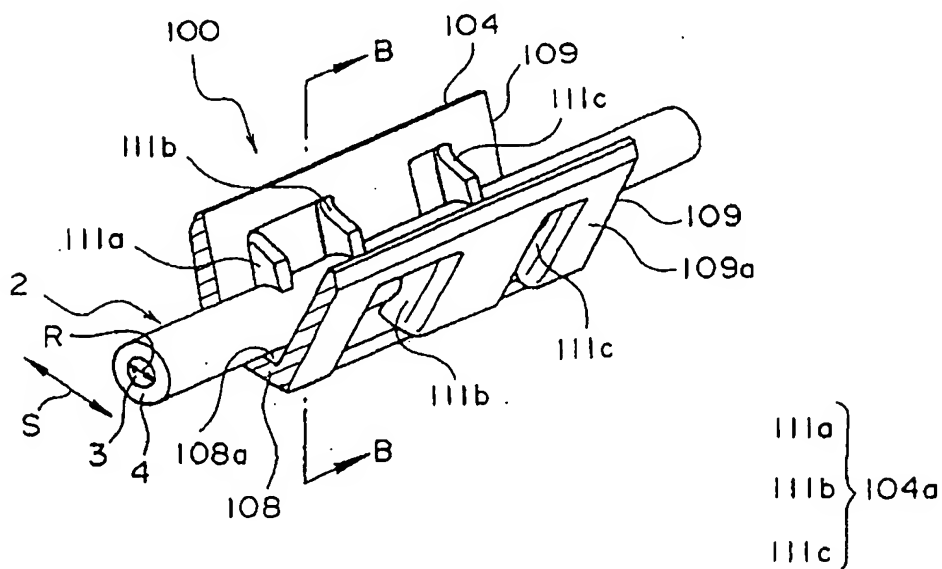
- 14: input apparatus
- 15: display apparatus
- 16: output apparatus
- 17: processing apparatus
- 34: storing portion
- 35: calculating portion
- 36: forming portion
- 37: determining portion
- 38: prediction determining portion

[図6]

Fig. 6



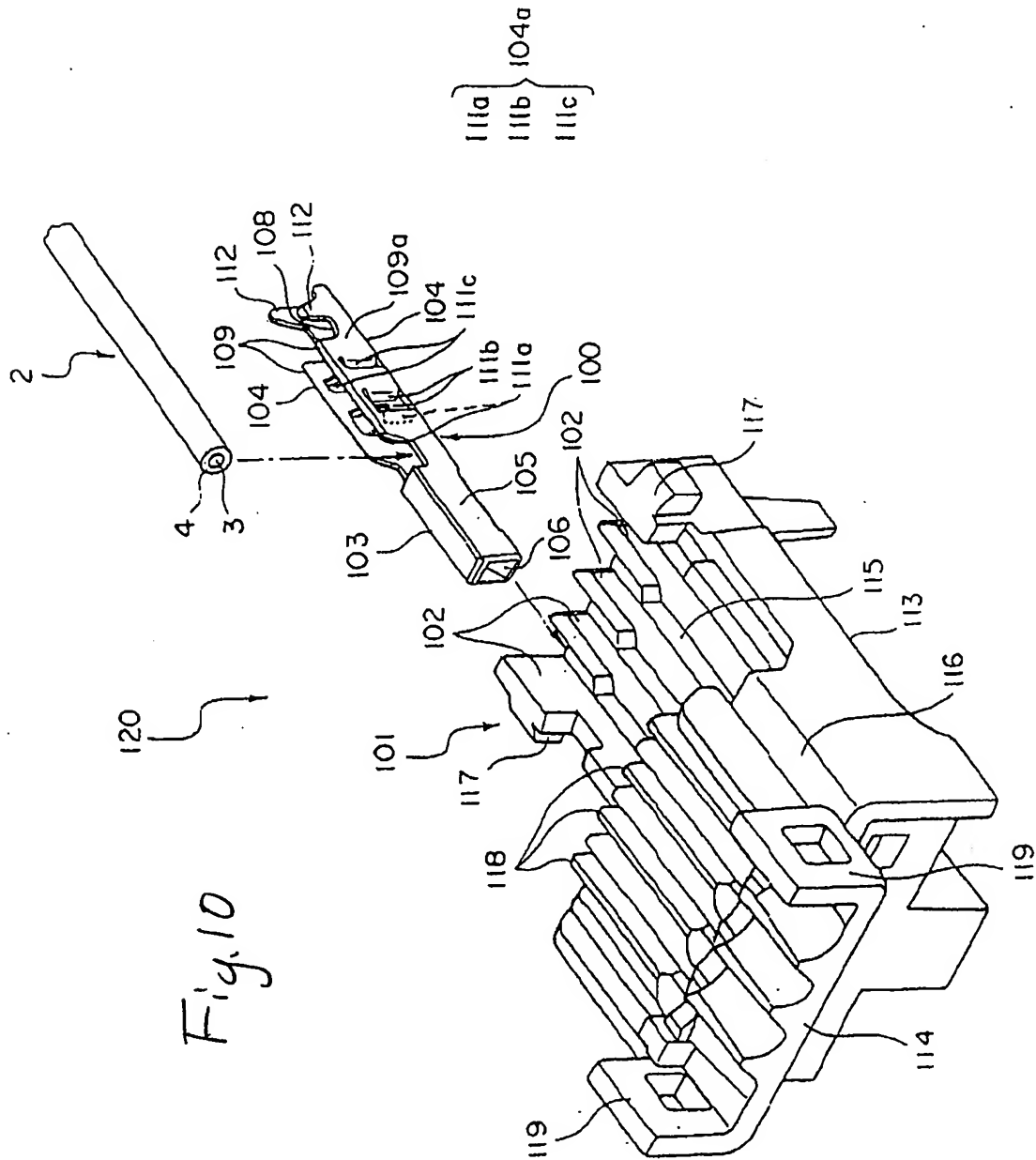
[図7] Fig. 7





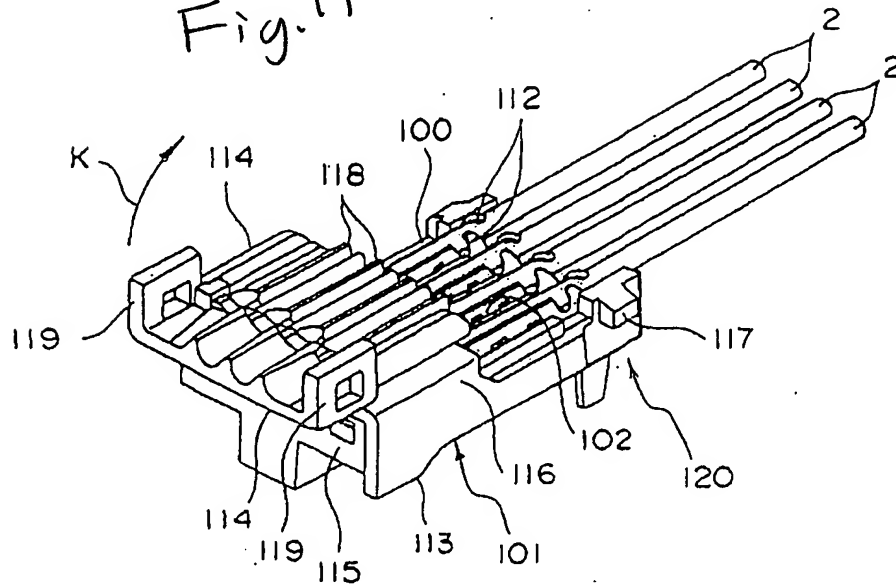


[図 10]



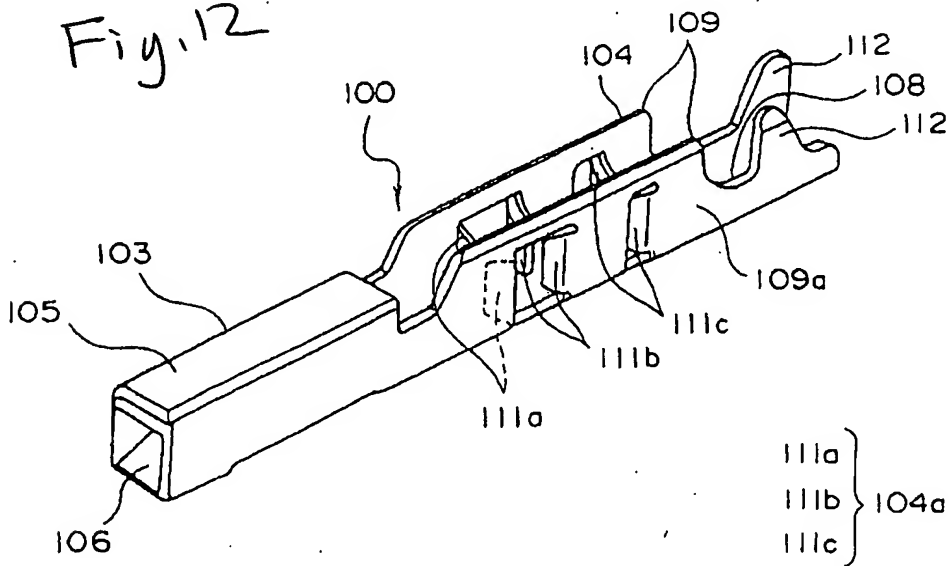
【図11】

Fig. 11



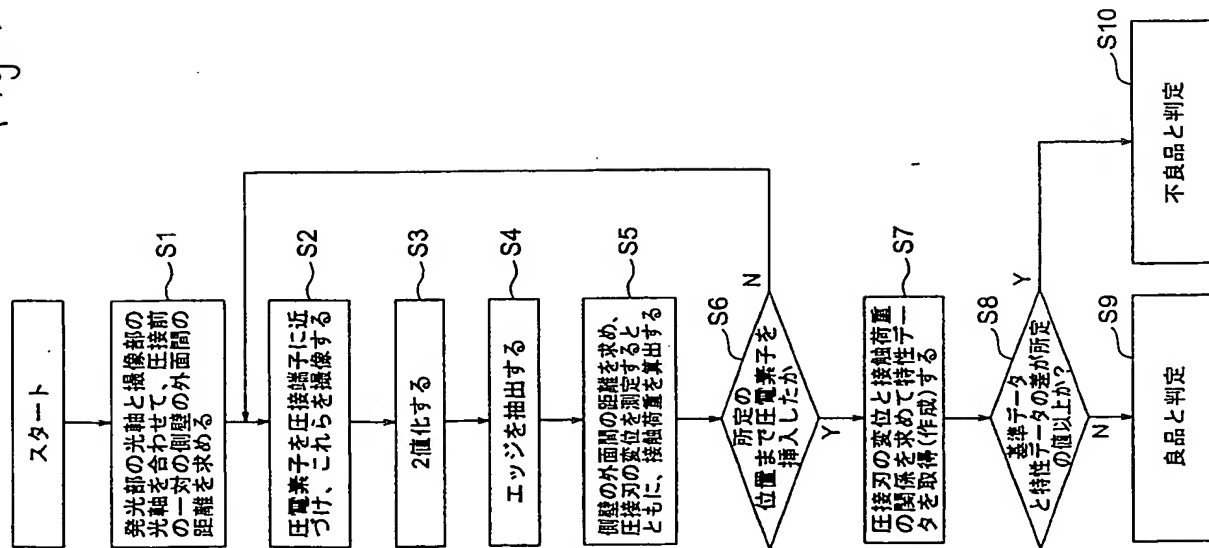
【図12】

Fig. 12



【図13】

Fig.13



start

S1: coincide optical axis of light emitting portion with optical axis of image pickup portion and acquire a distance between outer faces of pair of side walls before press contacting  
S2: bring piezoelectric element close to press contact terminal and pickup image thereof  
S3: binarizing  
S4: extract edge

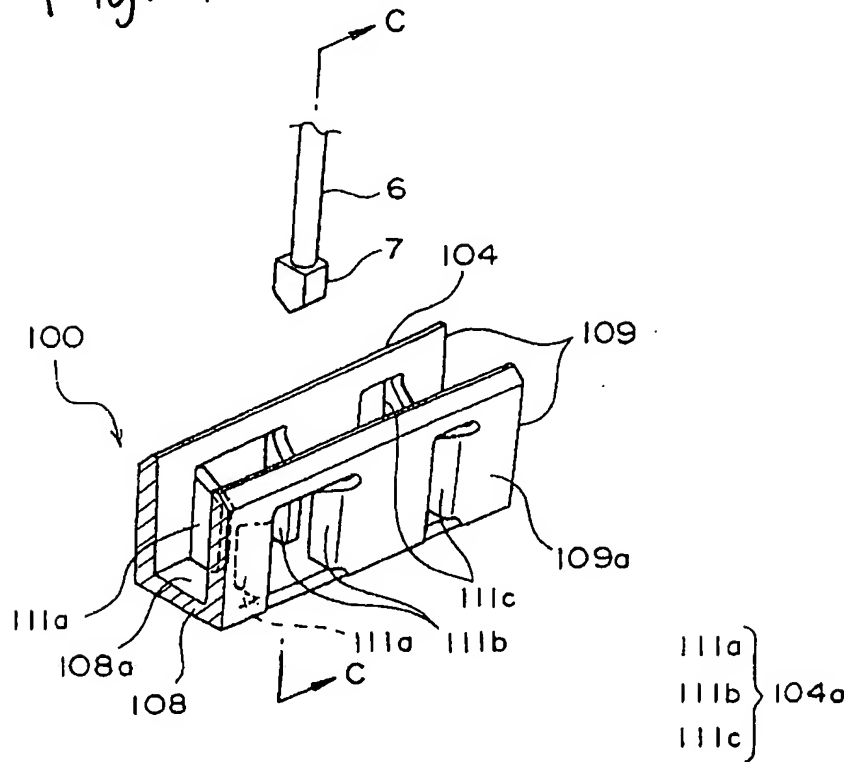
S5: acquire distance between outer faces of side walls, measure displacement of press contact blades and calculate contact load

S6: is piezoelectric element inserted at predetermined position?  
S7: acquire (form) characteristic data by obtaining relationship between displacement of press contact blades and contact load

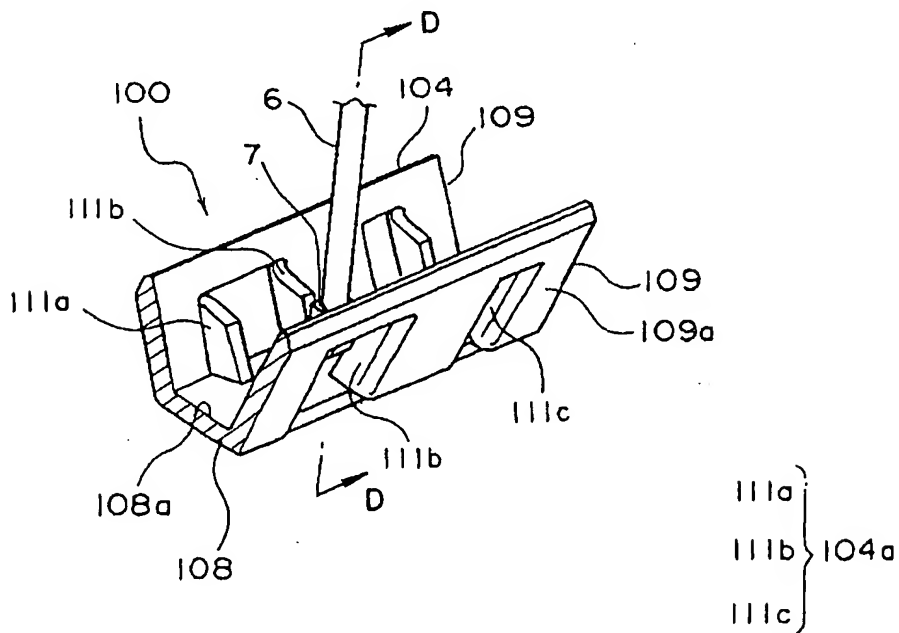
S8: does difference between reference data and characteristic data exceed predetermined value?  
S9: good  
S10: defect

[図14]

Fig. 14



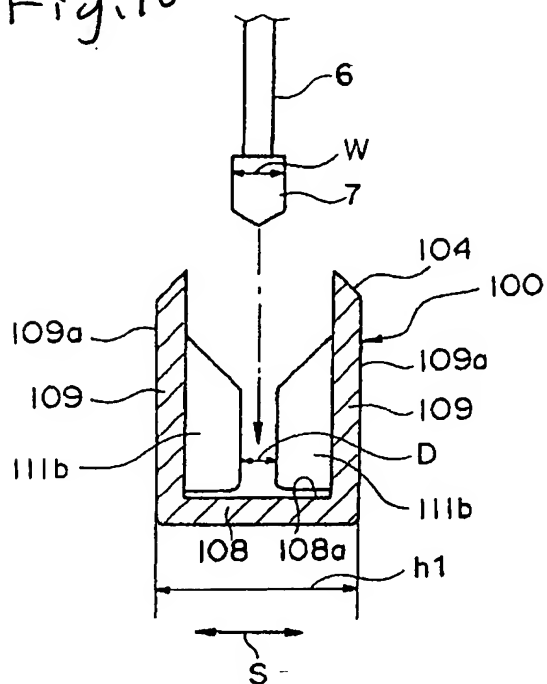
[図15] Fig. 15



[書類名] 図面  
[特許] 2002-364979 (14)

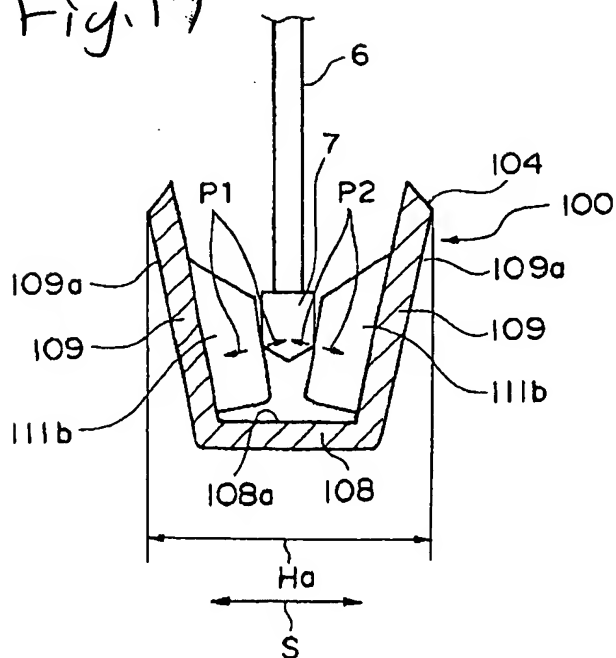
~~【图16】~~

Fig. 16



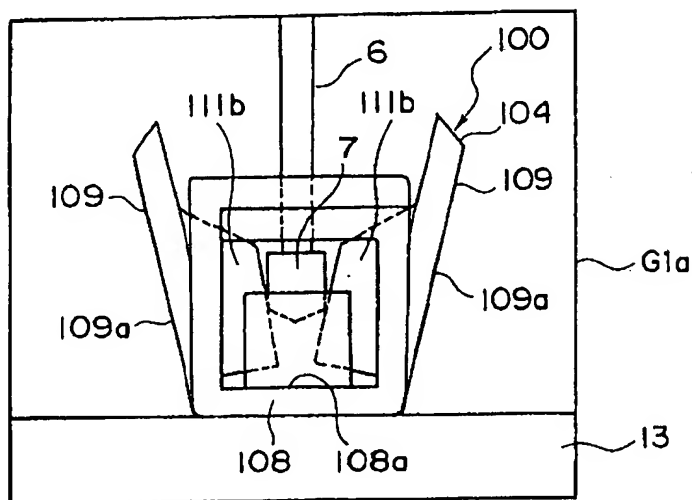
~~【图 17】~~

Fig. 17



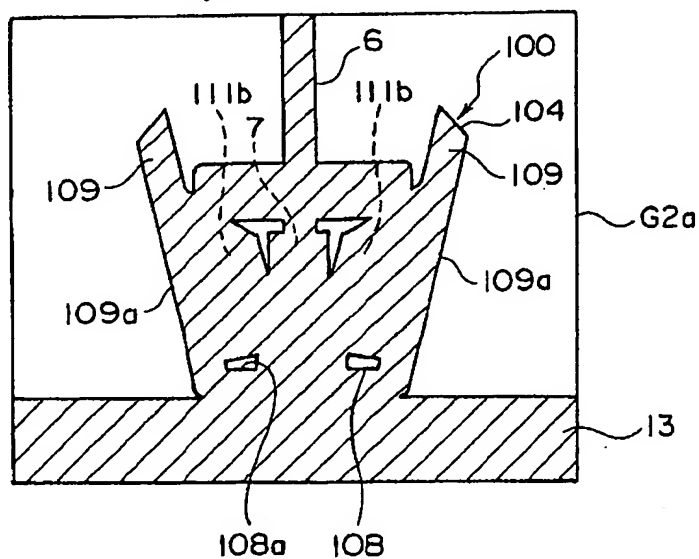
【図18】

Fig. 18



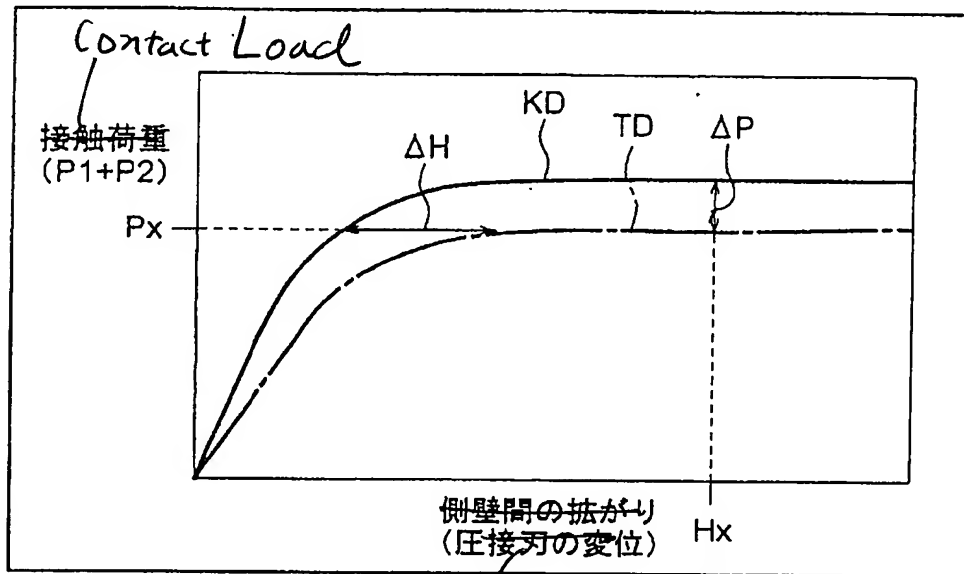
【図19】

Fig. 19



Expansion Amount Between Side Walls  
(Displacement of Press Contact Blades)

[図 2-2] Fig. 22

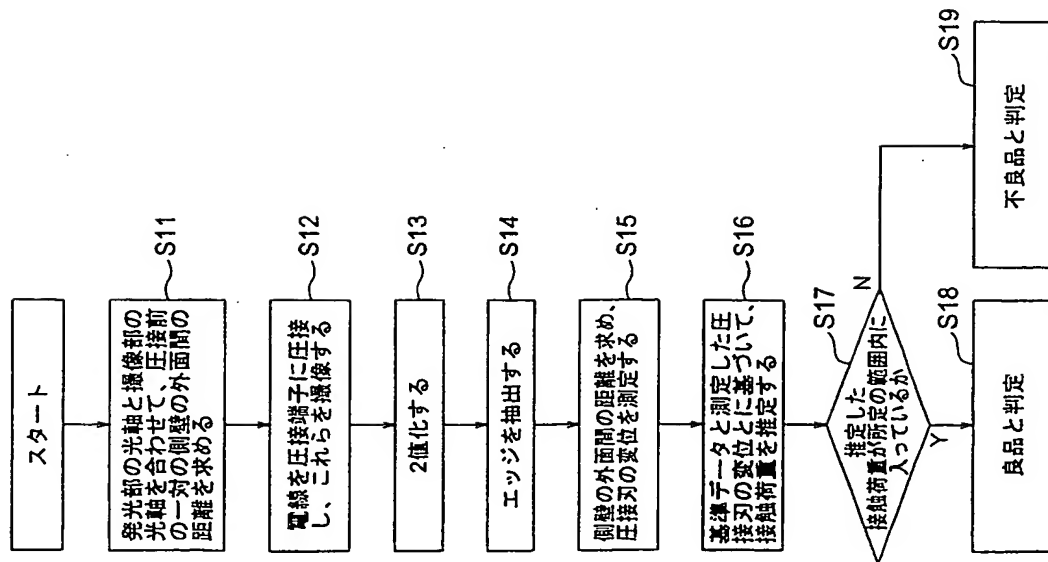


Expansion Amount Between Side Walls  
(Displacement of Press Contact Blades)



〔図23〕

Fig.23



start

S11: coincide optical axis of light emitting portion with optical axis of image pickup portion and acquire a distance between outer faces of pair of side walls before press contacting

S12: bring wire into press contact with press contact terminal and pickup image thereof

S13: binarizing

S14: extract edge

S15: acquire distance between outer faces of side walls and measure displacement of press contact blades

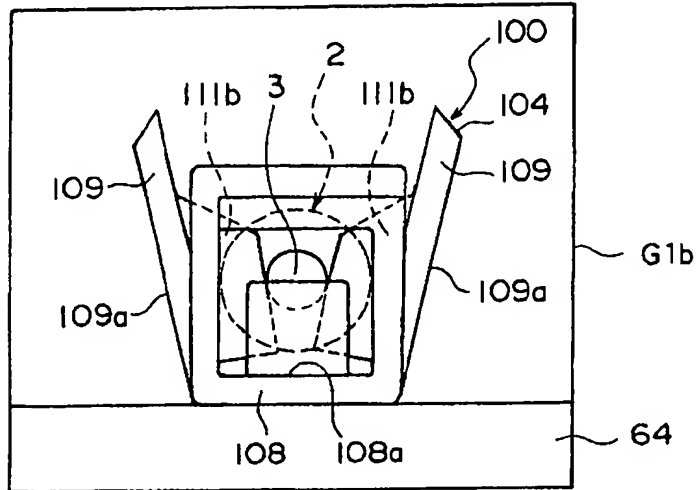
S16: predict contact load based on reference data and measured displacement of press contact blades

S17: does predicted contact load fall within predetermined range?

S18: good

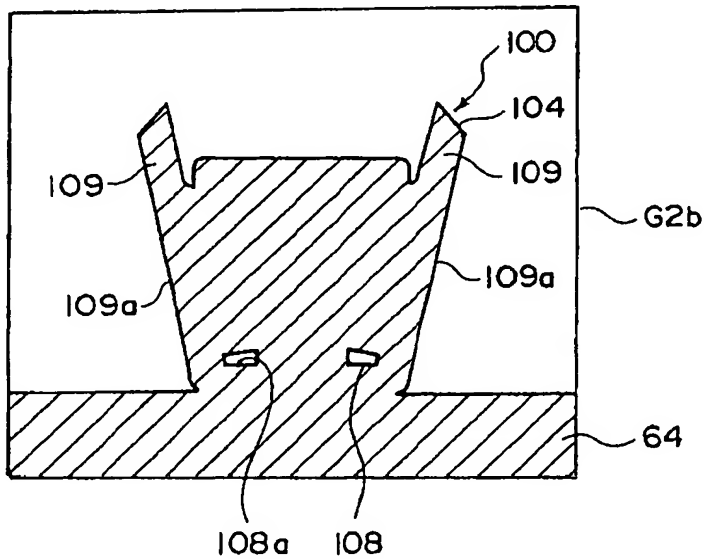
S19: defect

~~図 24~~ Fig.24

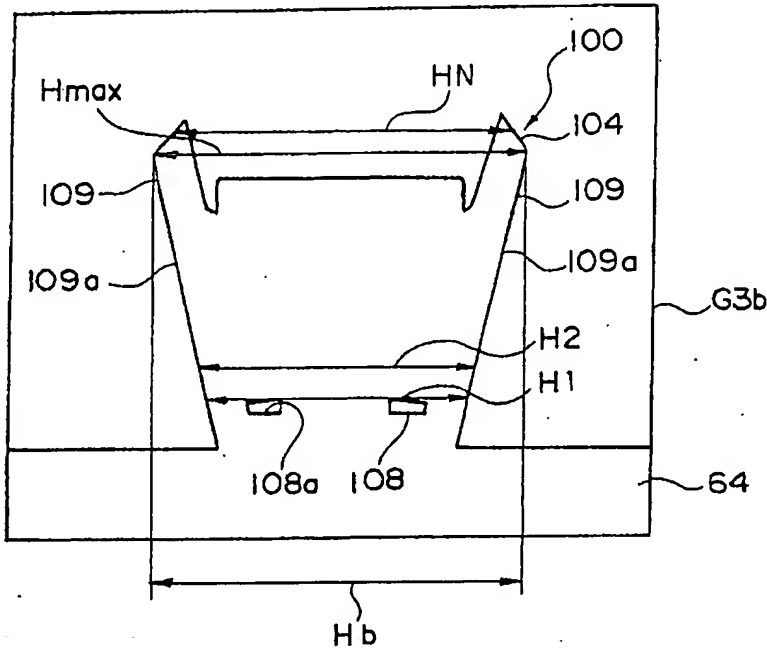


~~図 25~~

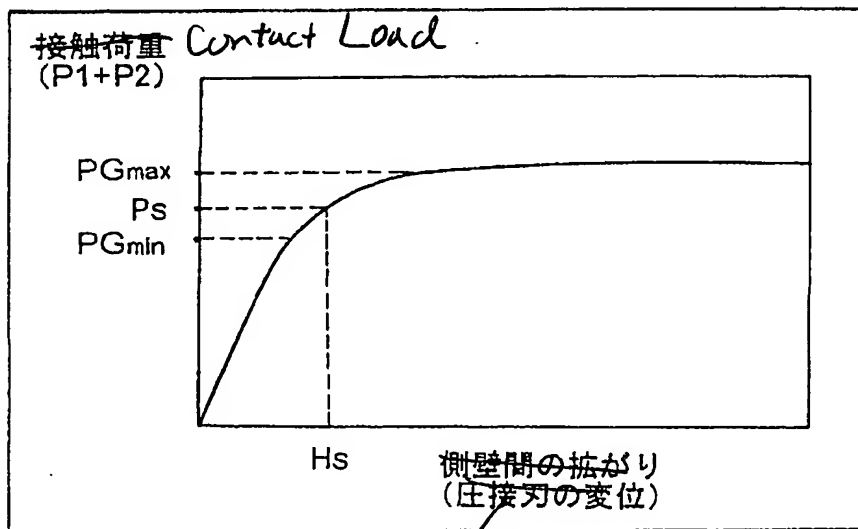
Fig.25



【図26】 Fig.26

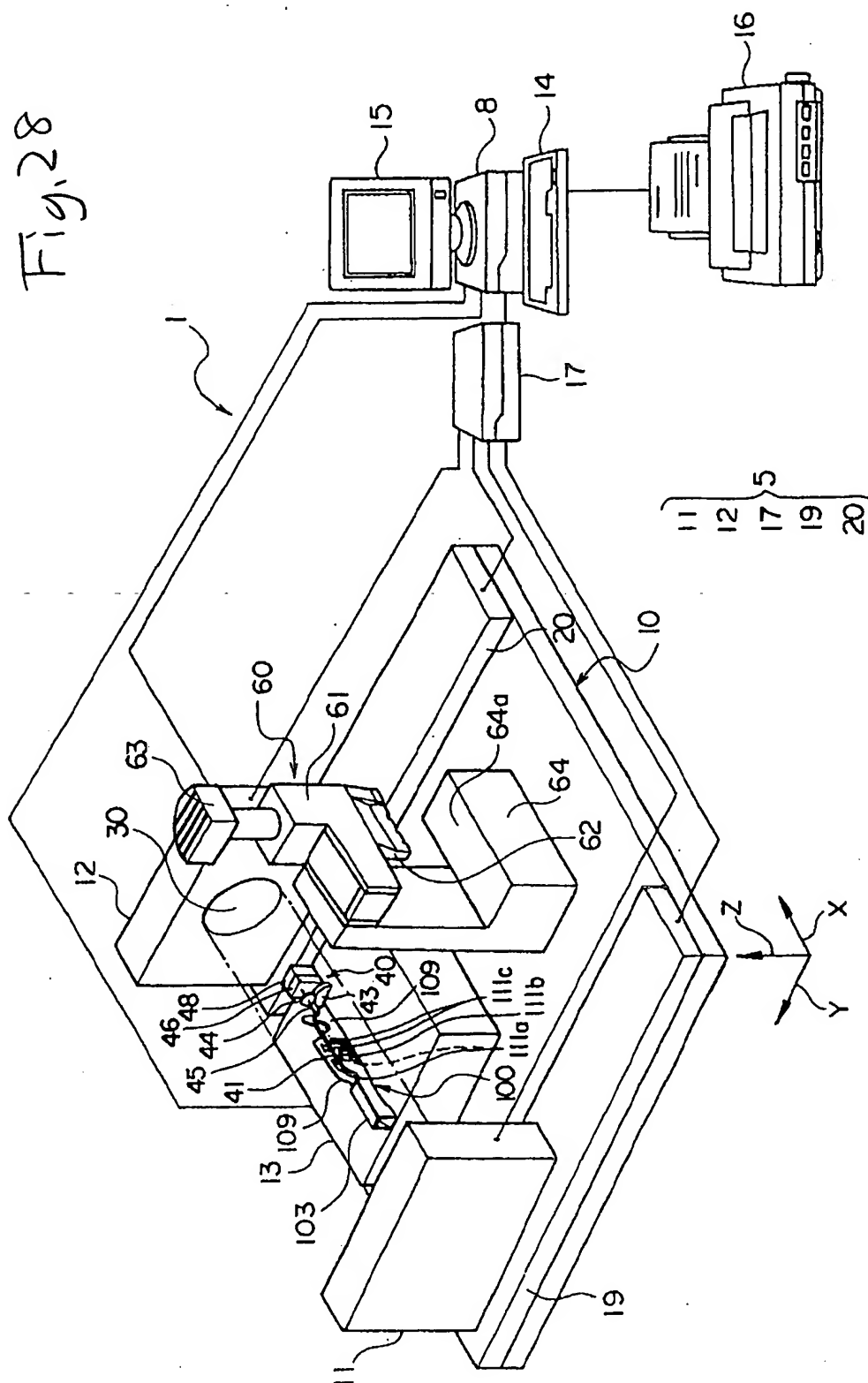


【図27】 Fig.27



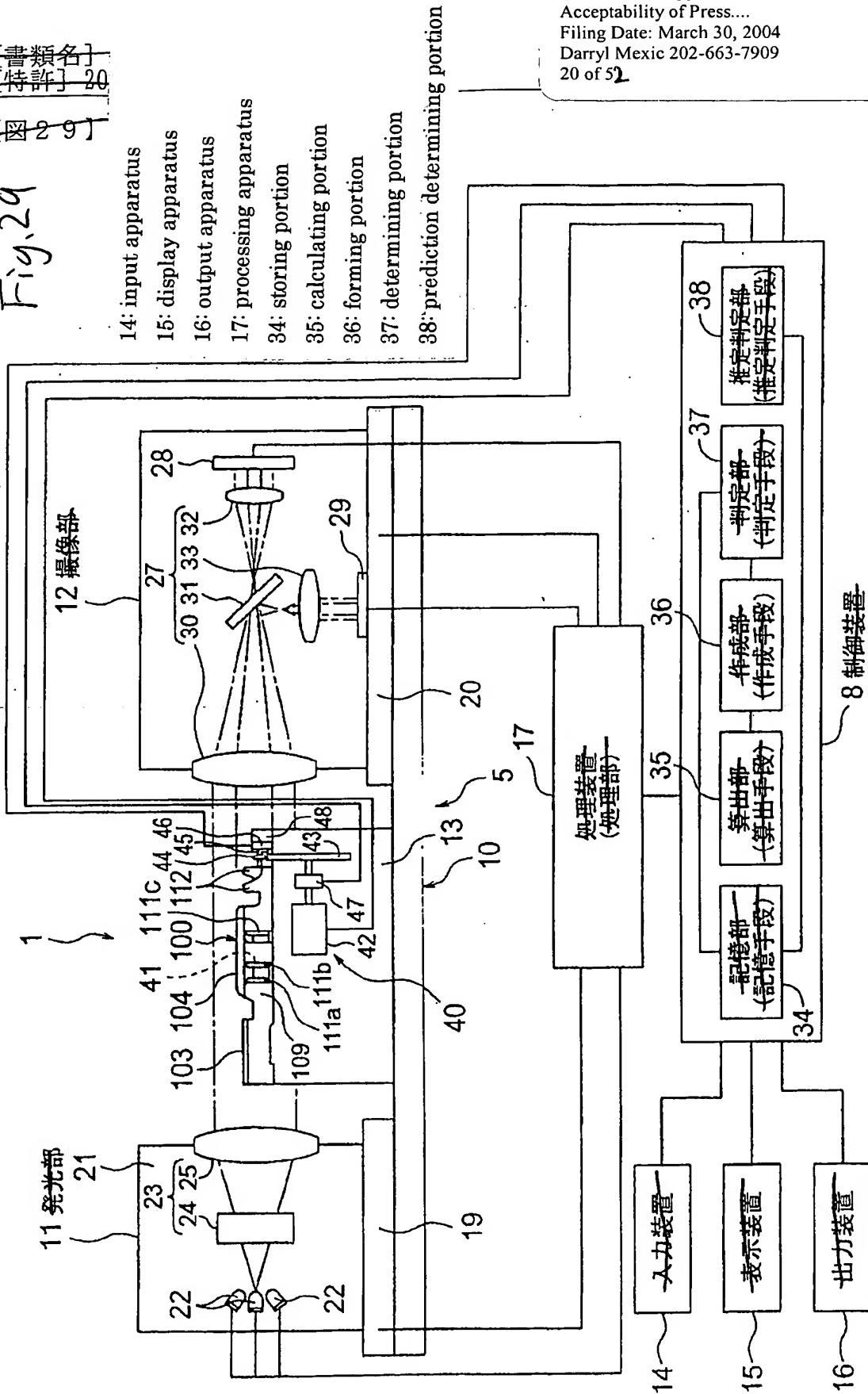
Expansion Amount Between Side Walls  
 (Displacement of Press Contact Blades)

~~【图28】~~



[書類名]  
 [特許] 20  
 [図 29]

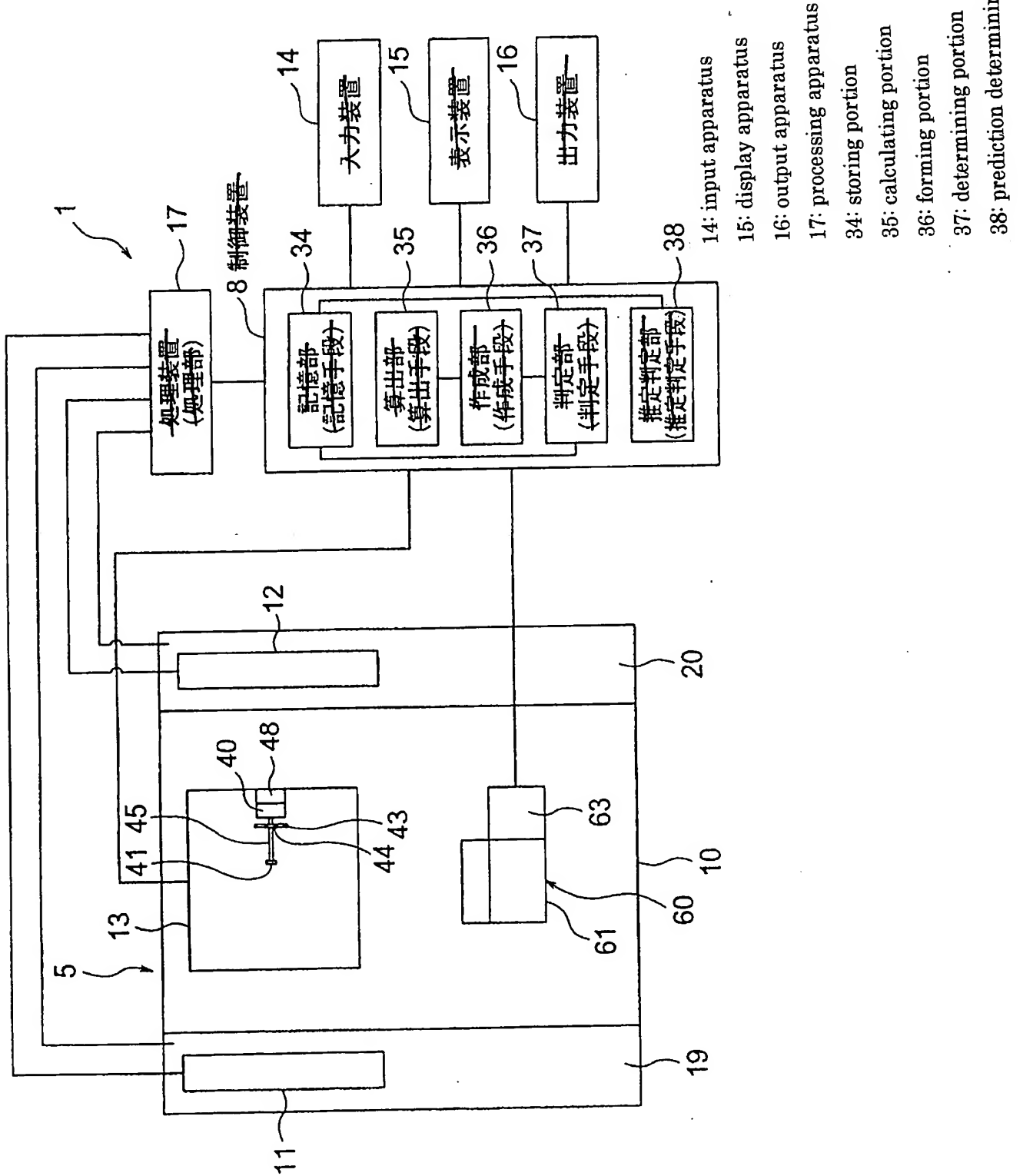
Fig.29



[書類名] 図面

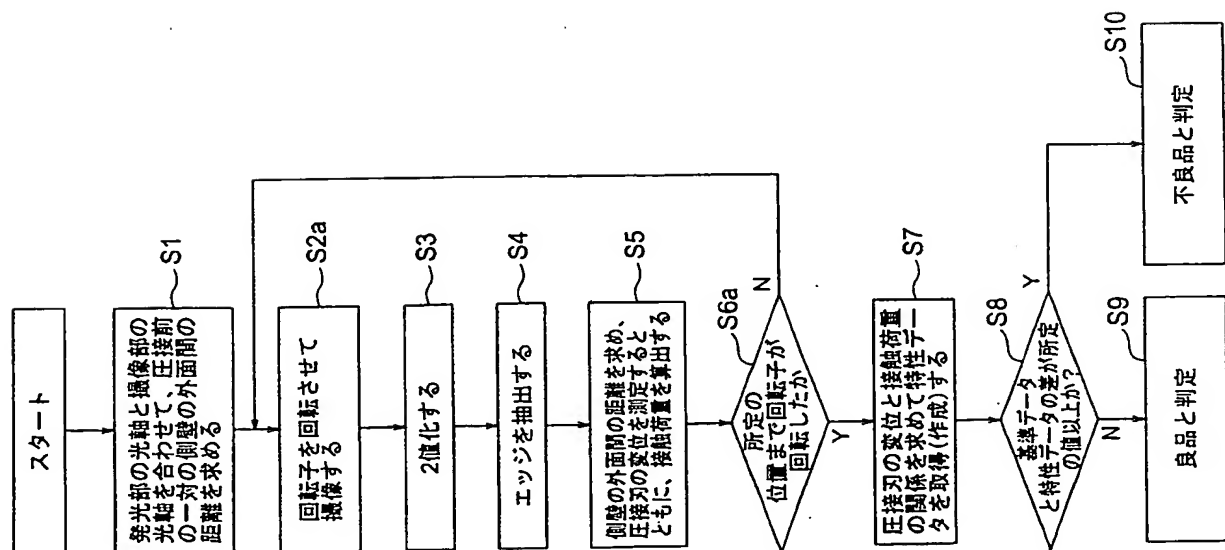
[特許] 2002-364979 (14.12.17)

【図30】



【書類名】図面  
【特許】2002-364979(44.12.17)  
【受付日】平成14.12.17  
頁: 22 / 38

Fig.31

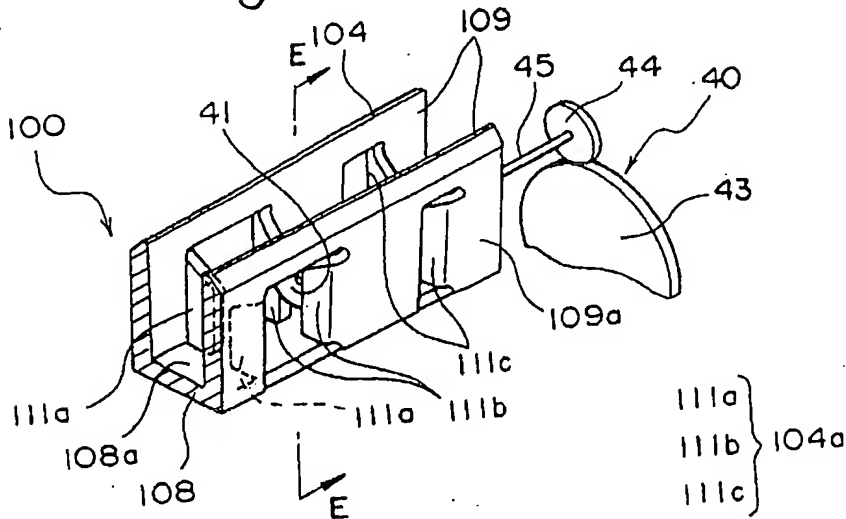


start

S1: coincide optical axis of light emitting portion with optical axis of image pickup portion and acquire a distance between outer faces of pair of side walls before press contacting  
S2a: rotate rotor and pickup image thereof  
S3: binarizing  
S4: extract edge  
S5: acquire distance between outer faces of side walls, measure displacement of press contact blades and calculate contact load  
S6a: is rotor rotated by predetermined position?  
S7: acquire (form) characteristic data by obtaining relationship between displacement of press contact blades and contact load  
S8: does difference between reference data and characteristic data exceed predetermined value?  
S9: good  
S10: defect

[図 32]

Fig. 32



[図 33]

Fig. 33

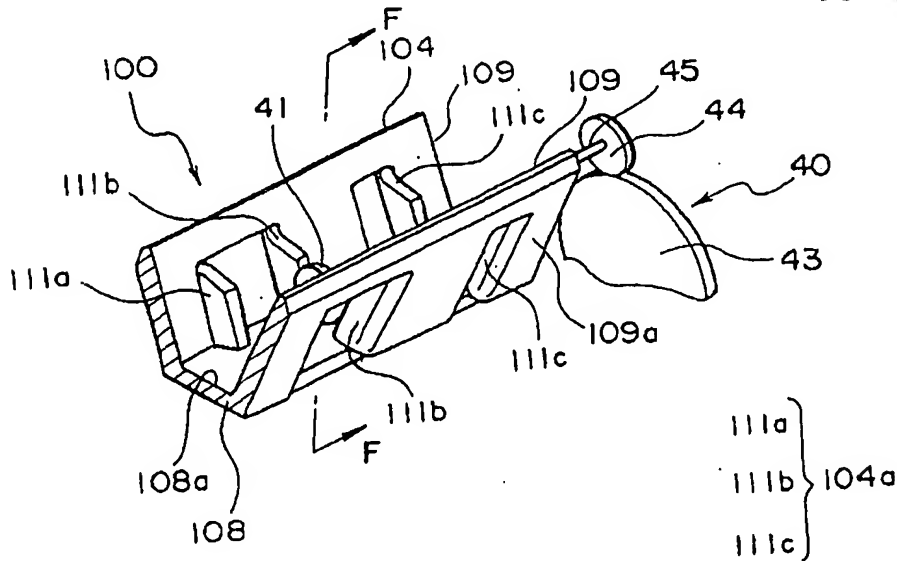




Fig. 34

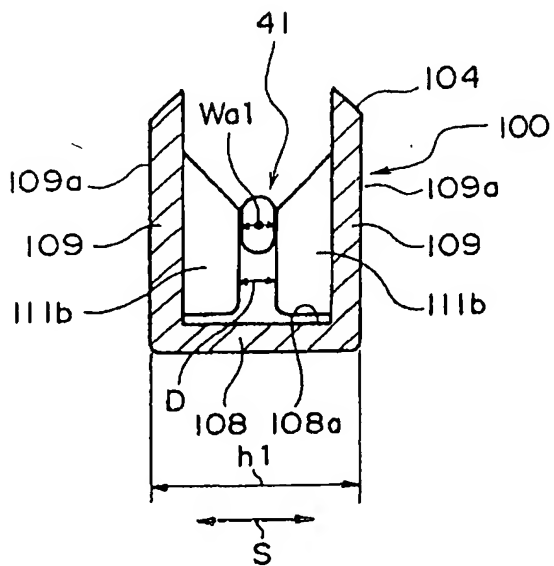


Fig. 35

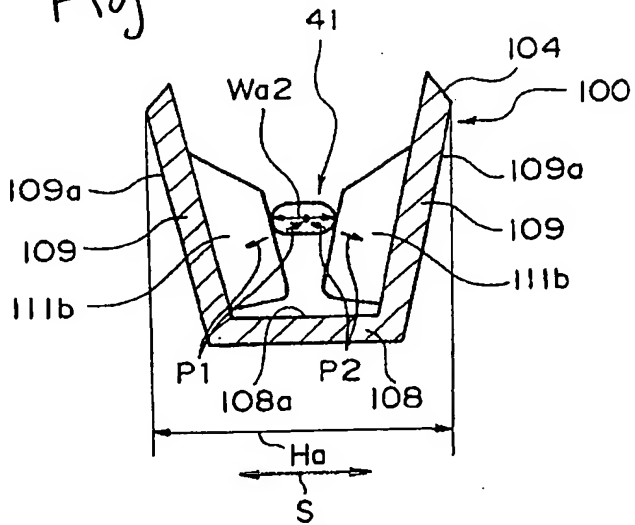
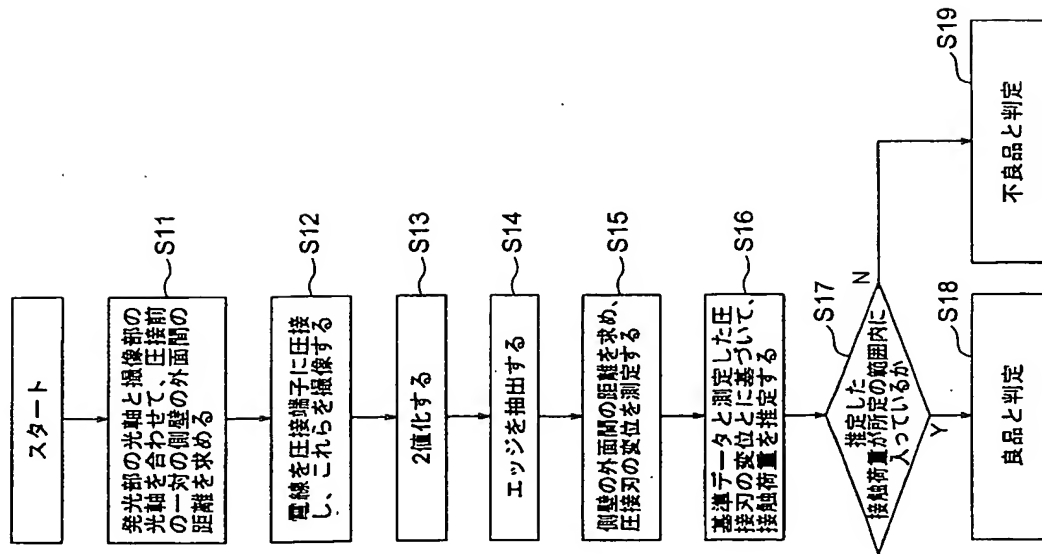


図36

Fig.36



start

S11: coincide optical axis of light emitting portion with optical axis of image pickup portion and acquire a distance between outer faces of pair of side walls before press contacting

S12: bring wire into press contact with press contact terminal and pickup image thereof

S13: binarizing

S14: extract edge

S15: acquire distance between outer faces of side walls and measure displacement of press contact blades

S16: predict contact load based on reference data and measured displacement of press contact blades

S17: does predicted contact load fall within predetermined range?

S18: good

S19: defect

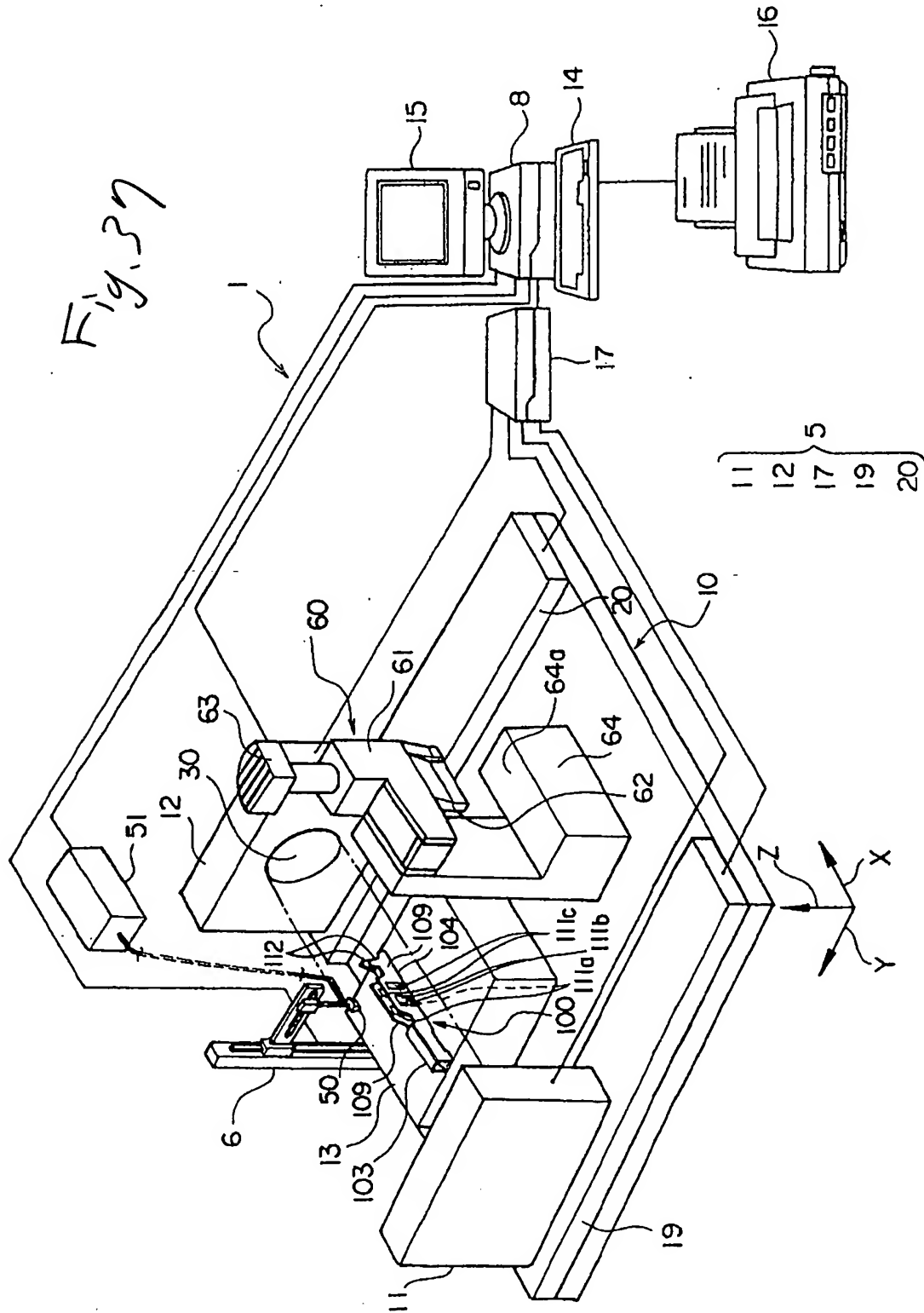
[書類名] 図面

[特許] 2002-364979 (14, 12, 17)

2. 17

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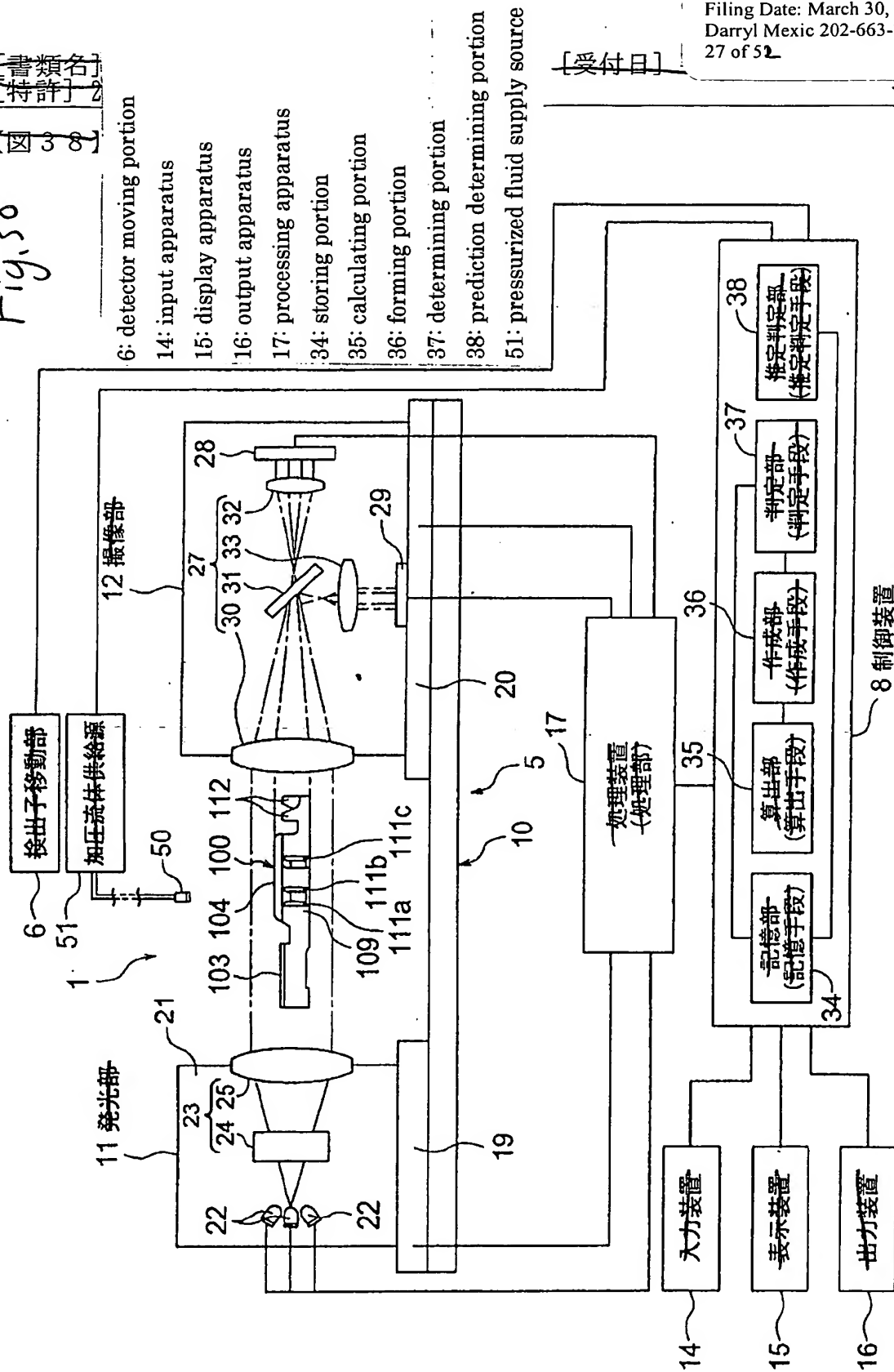
[図 37]



[書類名]  
 [特許] 2

図 38

Fig. 38



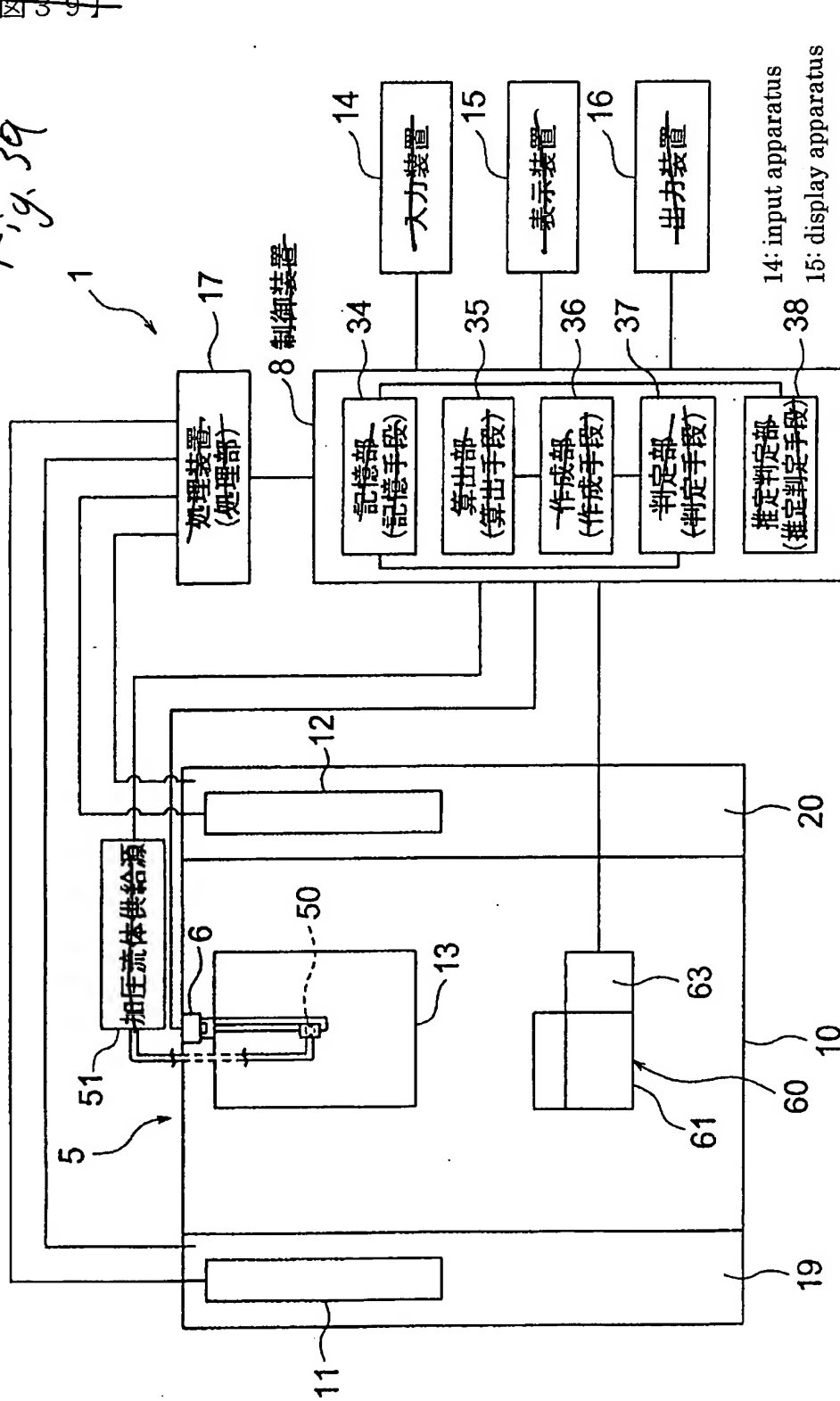
[受付日]

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[書類名] 図面  
 [特許] 2002-264979 (14. 12. 17)

【図39】

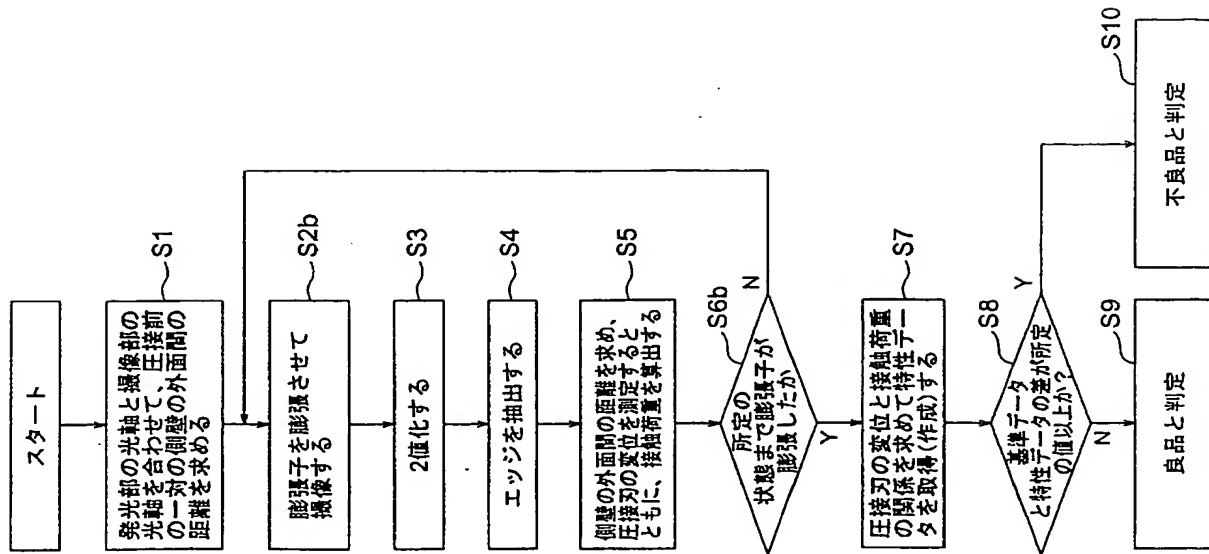
Fig. 39



- 14: input apparatus
- 15: display apparatus
- 16: output apparatus
- 17: processing apparatus
- 34: storing portion
- 35: calculating portion
- 36: forming portion
- 37: determining portion
- 38: prediction determining portion
- 51: pressurized fluid supply source

図40

Fig.40



start

S1: coincide optical axis of light emitting portion with optical axis of image pickup portion and acquire a distance between outer faces of pair of side walls before press contacting

S2b: expand expander and pickup image thereof

S3: binarizing

S4: extract edge

S5: acquire distance between outer faces of side walls, measure displacement of press contact blades and calculate contact load

S6b: is expander expanded in predetermined state?

S7: acquire (form) characteristic data by obtaining relationship between displacement of press contact blades and contact load

S8: does difference between reference data and characteristic data exceed predetermined value?

S9: good

S10: defect

[書類名] 図面

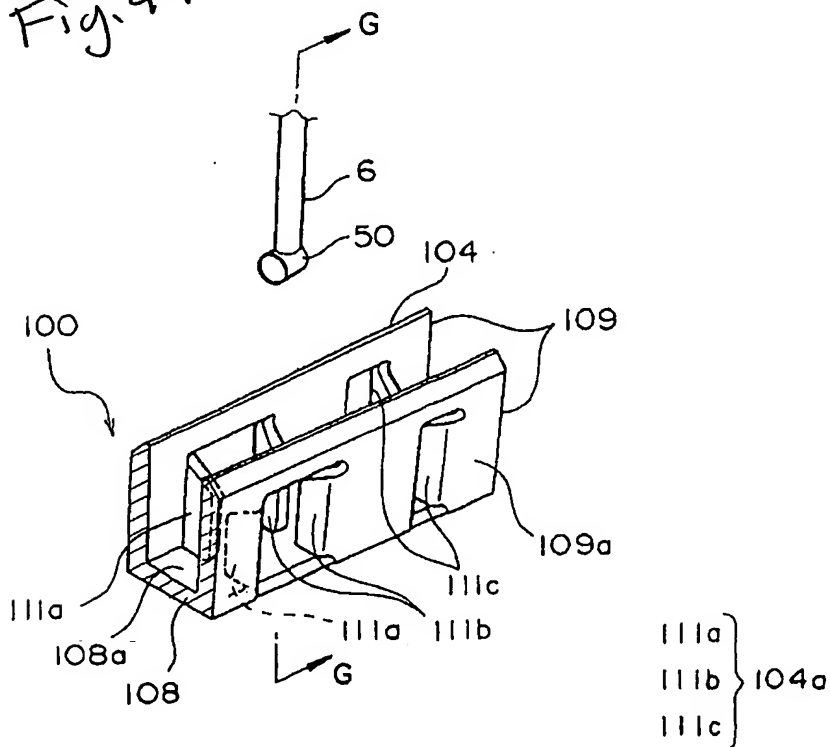
[特許] 2002-364979 (14.12.17)

4.12.17

頁: 30/ 33

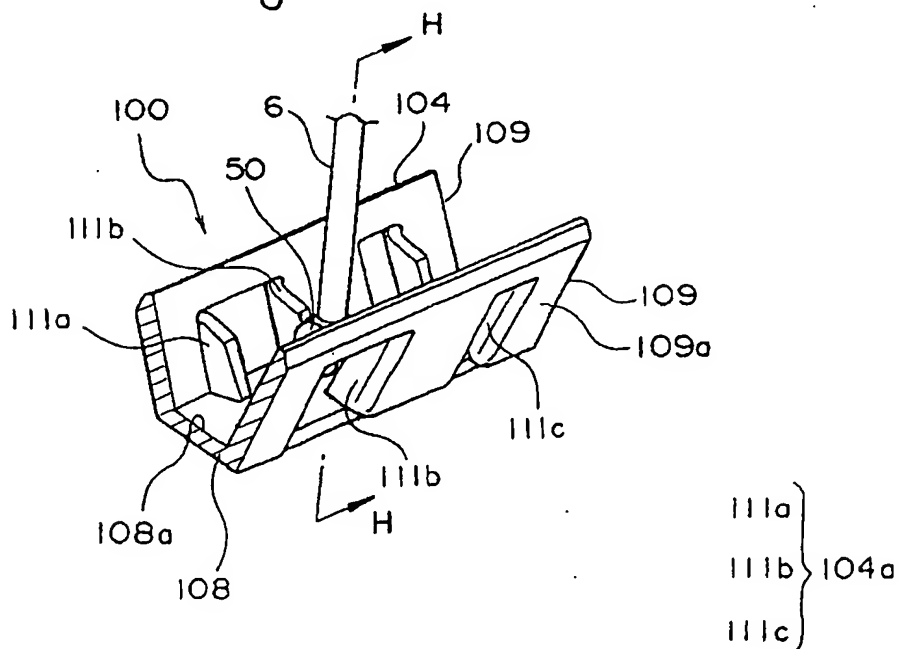
[図41]

Fig. 41



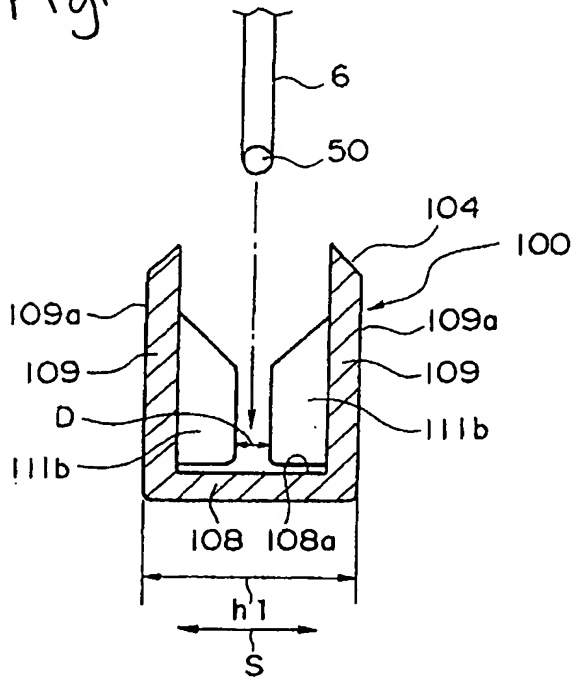
[図42]

Fig. 42



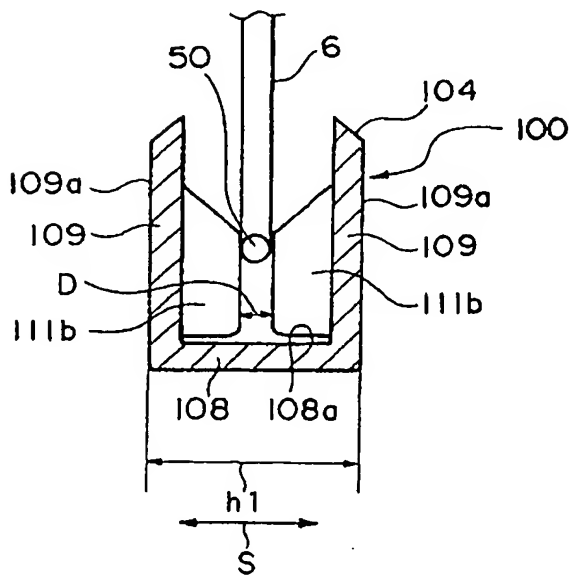
~~【図43】~~

Fig. 43



~~【図44】~~

Fig. 44





〔図45〕

Fig. 45

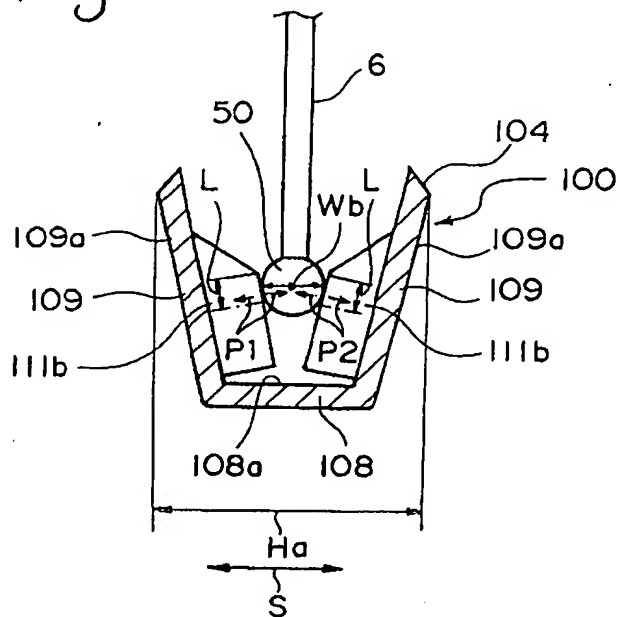
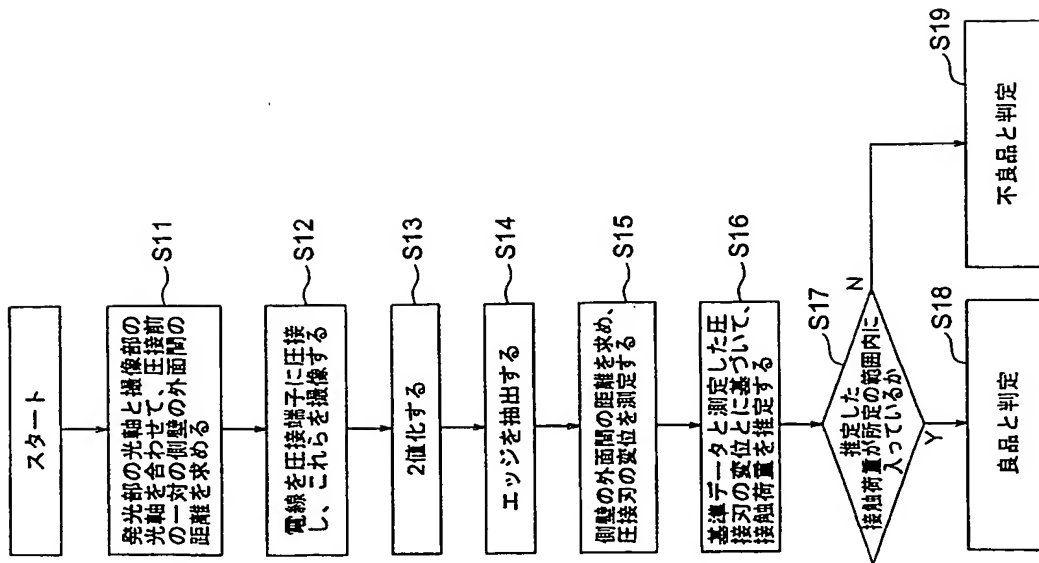


図46

Fig.46



start  
S11: coincide optical axis of light emitting portion with optical axis of image pickup portion and acquire a distance between outer faces of pair of side walls before press contacting  
S12: bring wire into press contact with press contact terminal and pickup image thereof  
S13: binarizing  
S14: extract edge  
S15: acquire distance between outer faces of side walls and measure displacement of press contact blades  
S16: predict contact load based on reference data and measured displacement of press contact blades  
S17: does predicted contact load fall within predetermined range?  
S18: good  
S19: defect

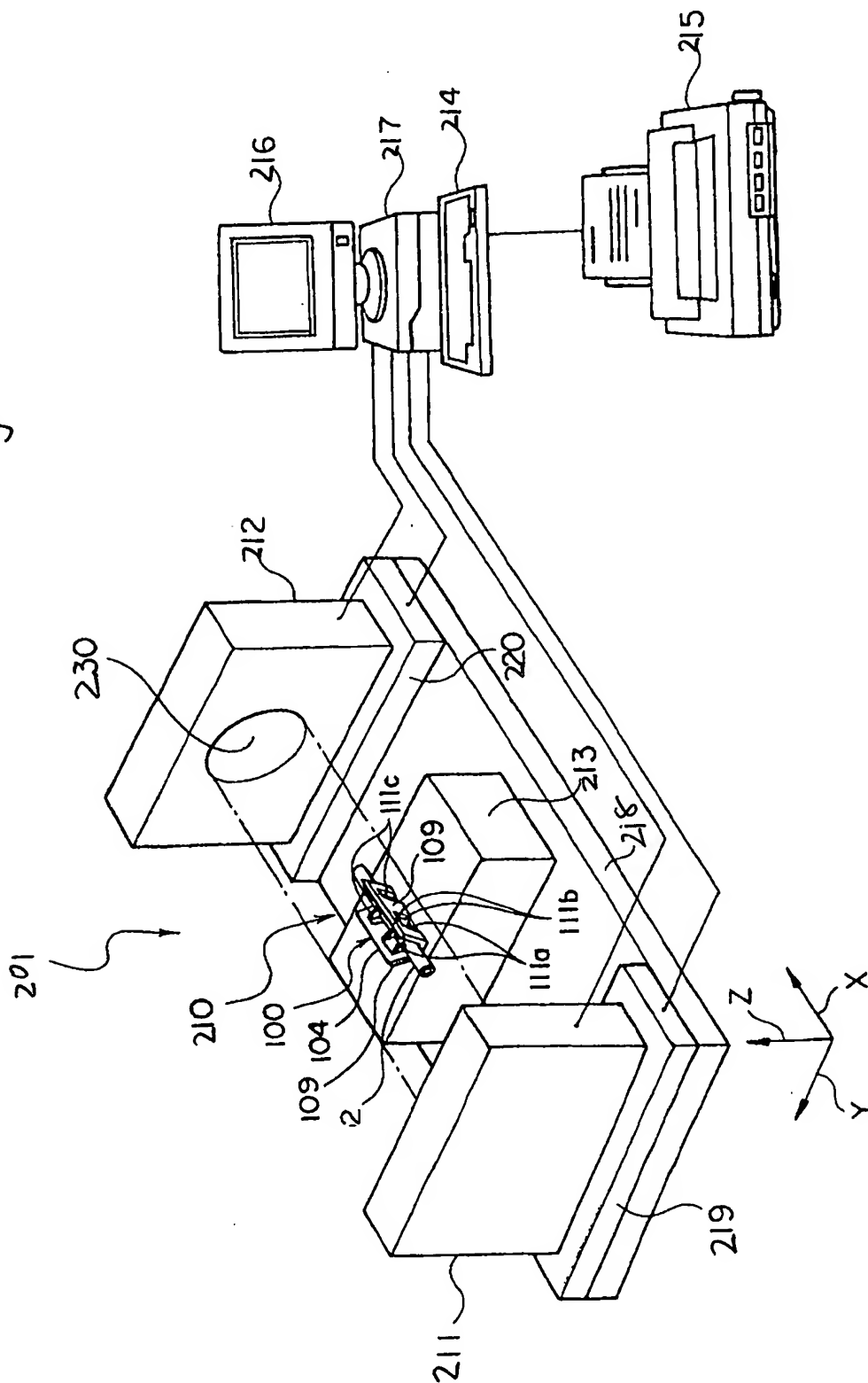
【書類名】 図面

【特許】 2002-352875 (14 12 04)

【書類名】 図面

【図1】

Fig. 47



[書類名] 図面  
 [特許] 2002-352875 (14. 12. 04)

[交付日] 平14. 12. 04

頁 27 10

[図2]

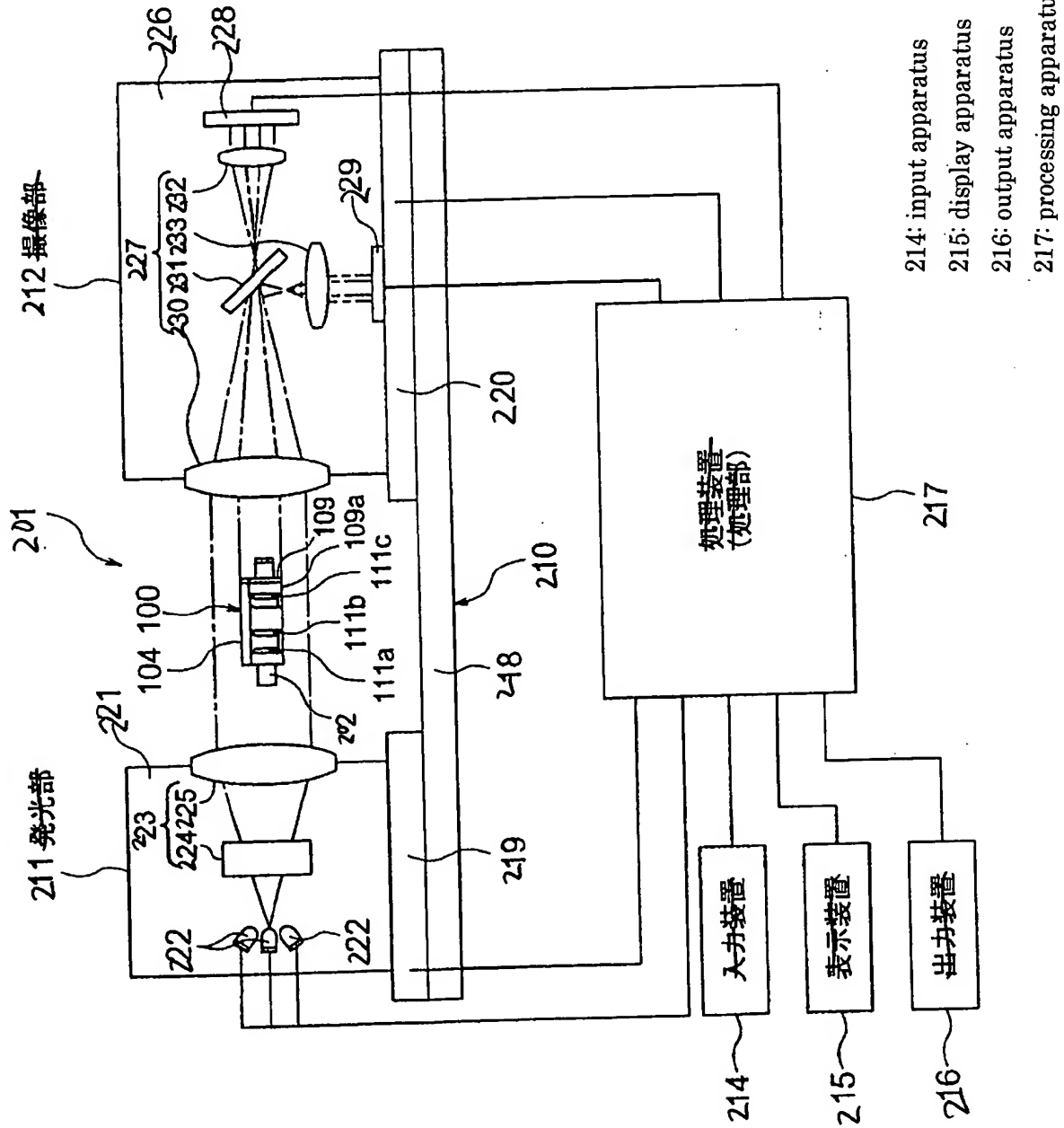
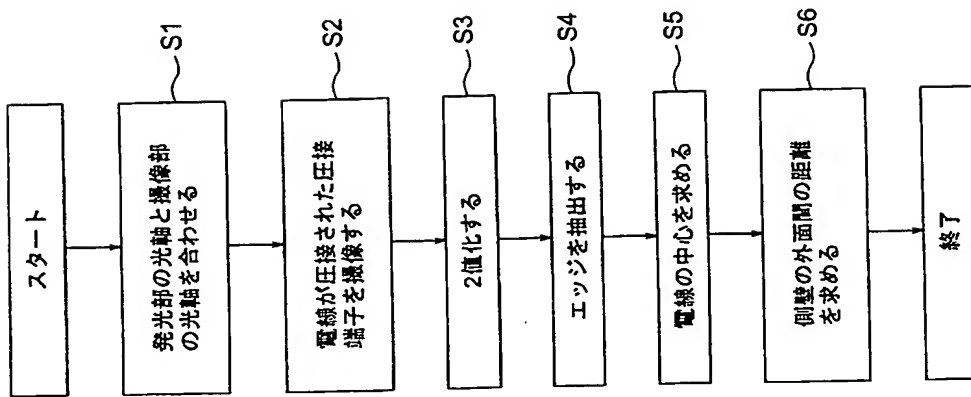


Fig. 48

Fig. 44



start

S1: coincide optical axis of light emitting portion with optical axis of image pickup portion  
S2: pickup image of press contact terminal with which wire is brought into press contact  
S3: binarizing  
S4: extract edge  
S5: acquire center of wire  
S6: acquire distance between outer faces of side walls

end

[書類名] 図面

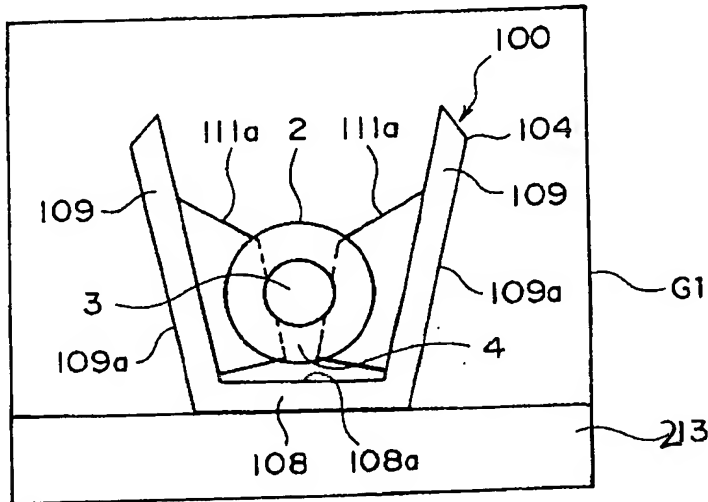
[特許] 2002-352875 (14.12.04)

[発行日] 14.12.04

頁: 8/10

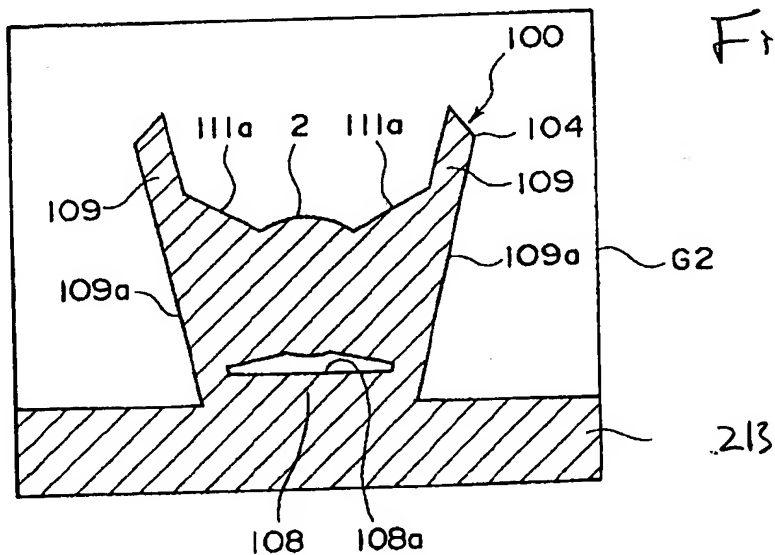
[図1-1]

Fig. 50



[図1-2]

Fig. 51



~~【書類名】 図面~~

~~【特許】 2002 352875 (14. 12. 04)~~

~~【文付口】 14. 12. 04~~

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~~【図 1 3】~~

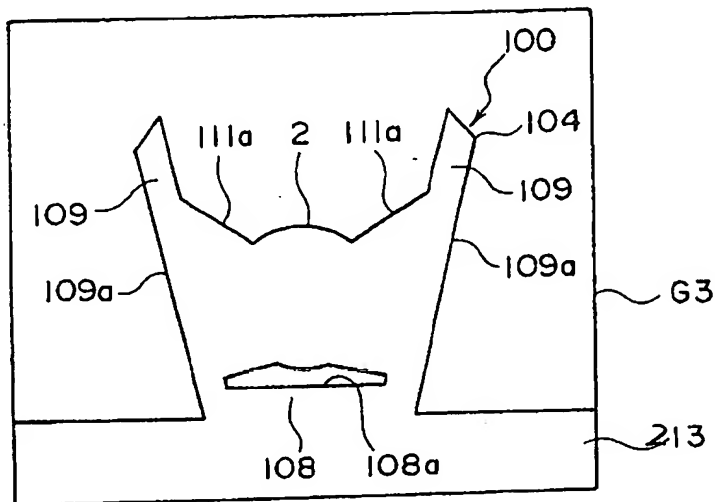


Fig. 52

~~【図 1 4】~~

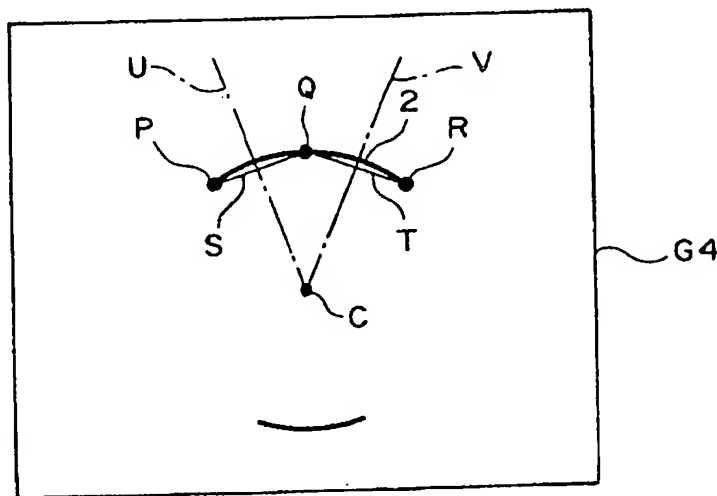


Fig. 53

[書類名] 図面  
 [特許] 2002-352875 (14.12.04)

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[図15]

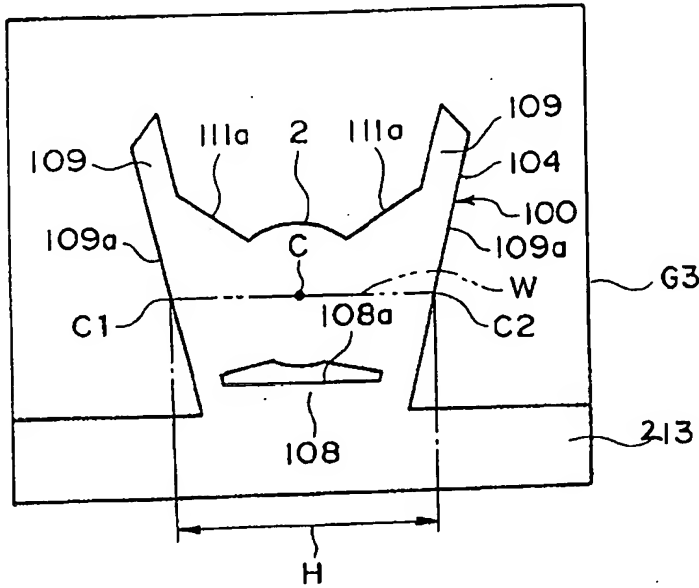


Fig. 54

[図16]

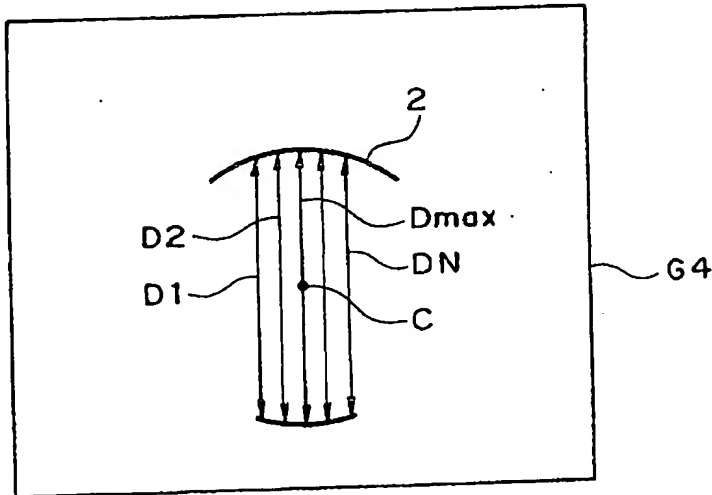
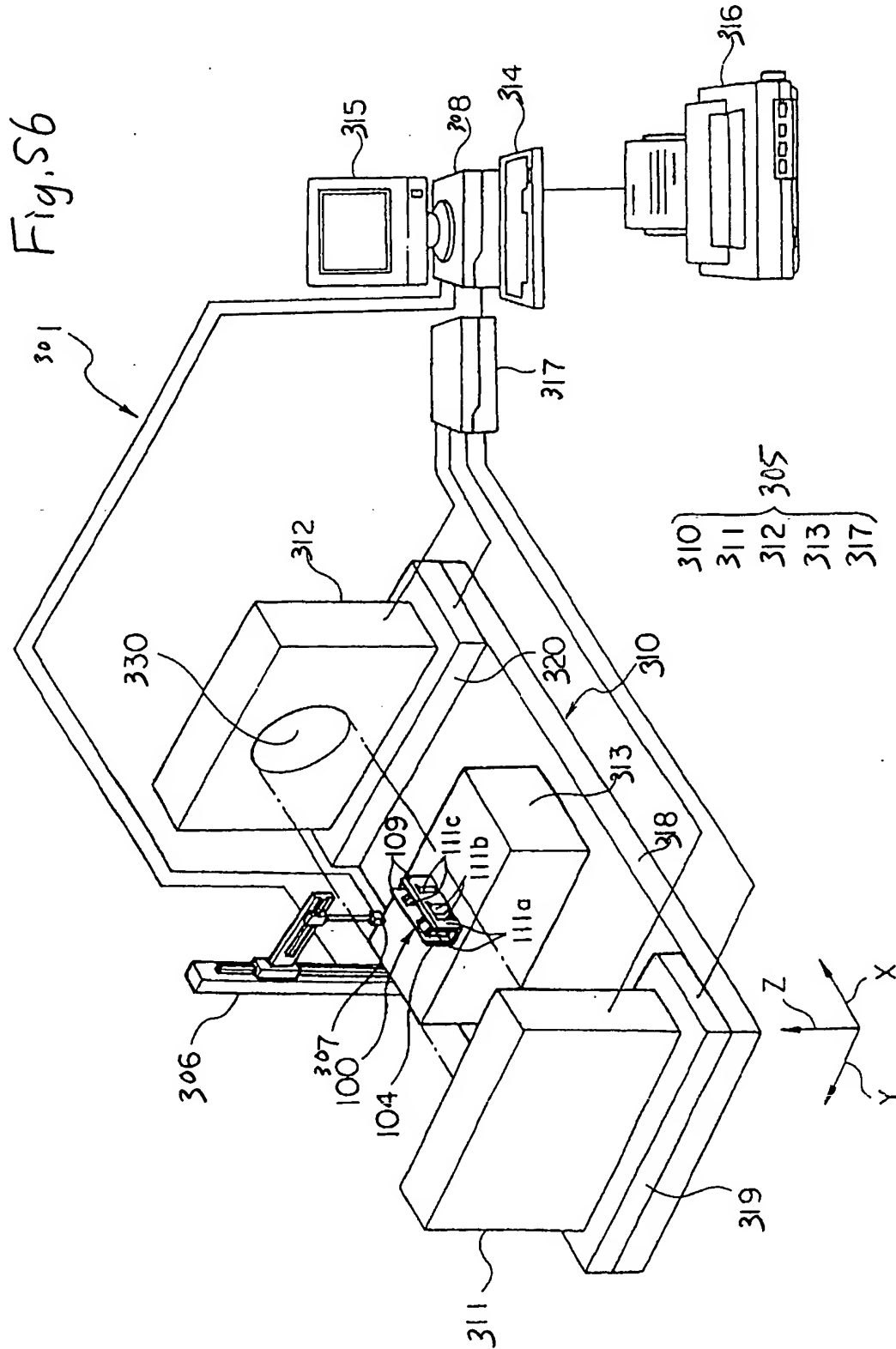


Fig. 55



[書類名] 図面

[図1]



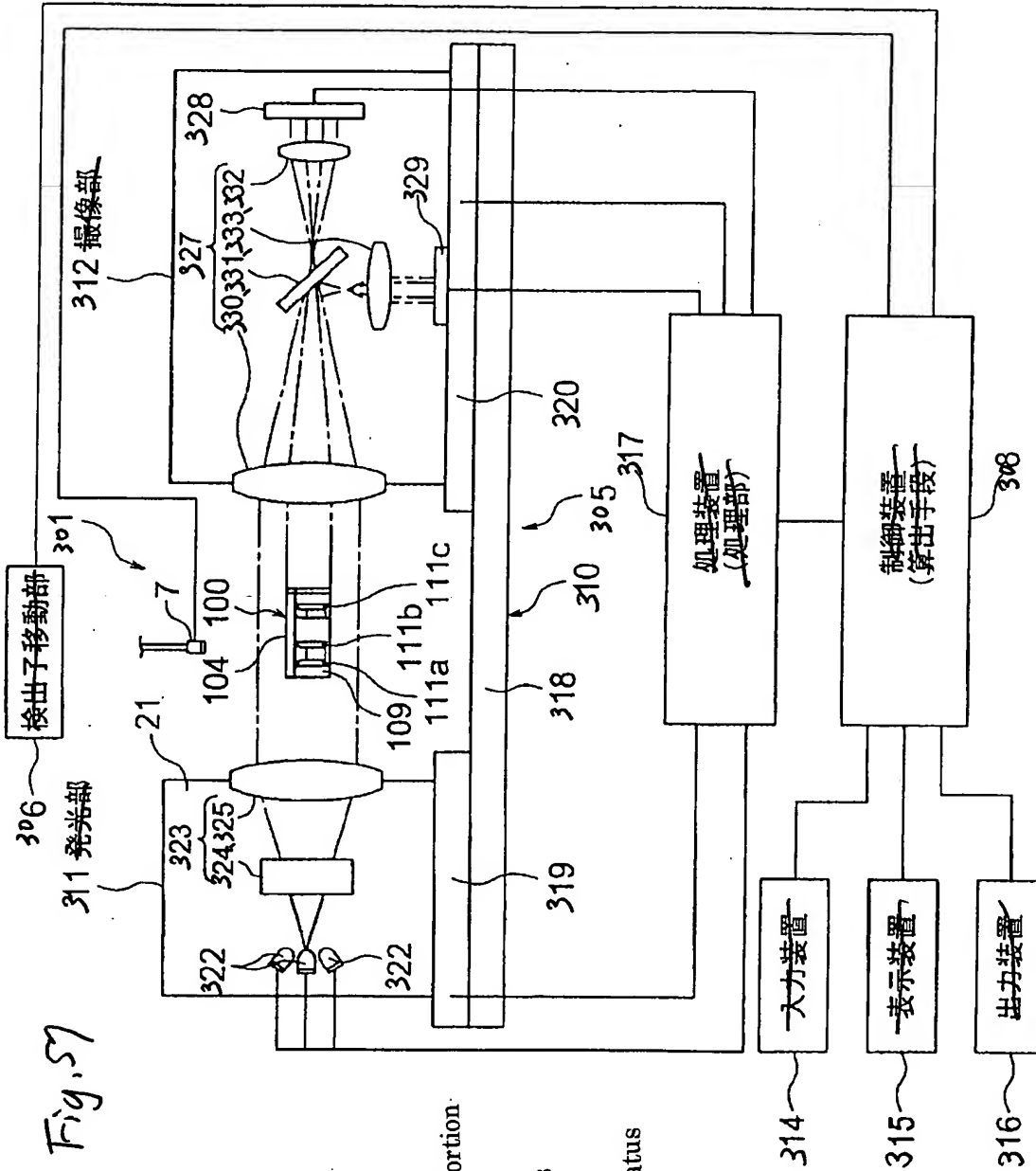
[書類名] 図面

[特許] 2002-352873 (14. 12. 04)

[交付日] 14. 12. 04

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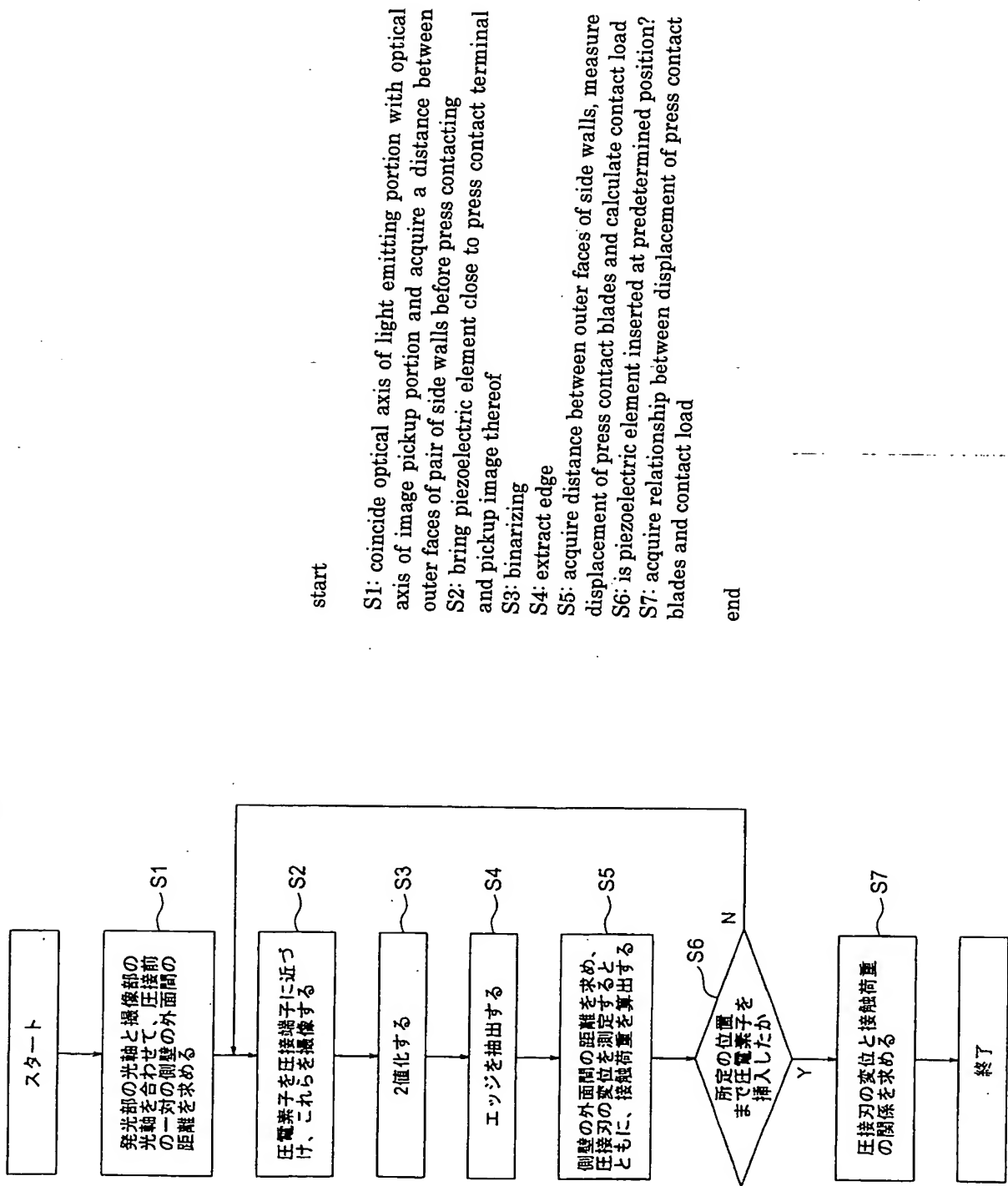
[図 2]



- 308: control apparatus
- 306: detector moving portion
- 314: input apparatus
- 315: display apparatus
- 316: output apparatus
- 317: processing apparatus

[書類名] 図面  
[発明] 2002-352873 (14.12.04)  
[受付日] 平14.12.04  
頁: 7/23

Fig. 58



[書類名] 図面

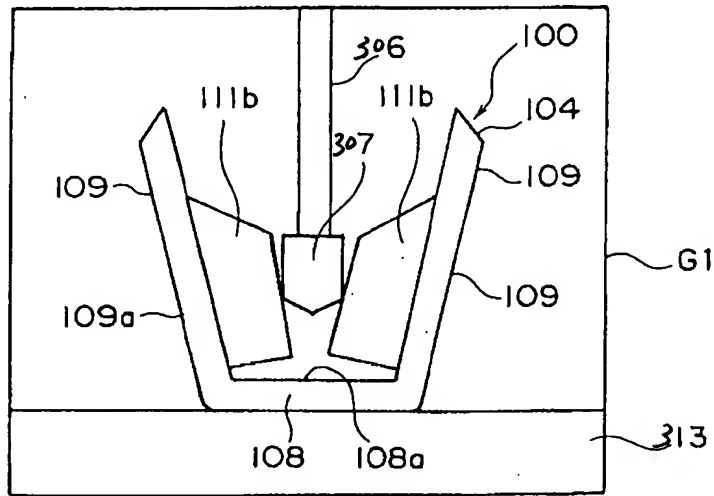
[特許] 2002-352873 (14. 12. 04)

[発行日] 14. 12. 04

頁. 10/ 23

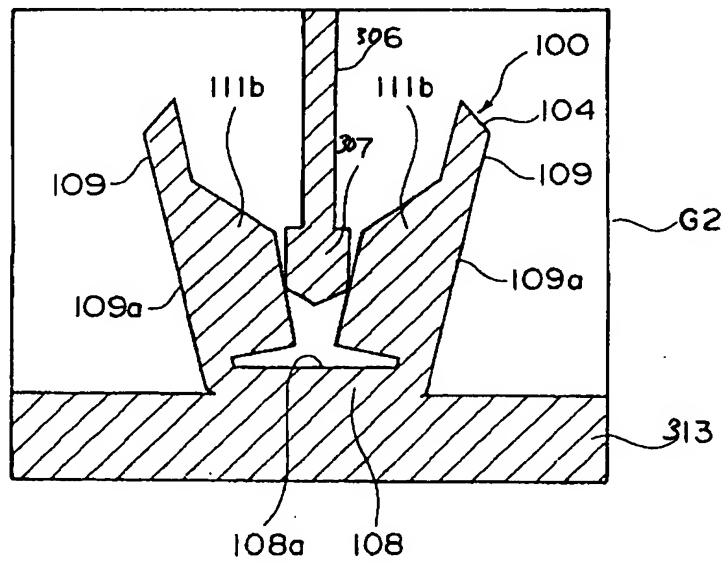
[図15]

Fig. 59



[~~図16~~]

Fig. 60



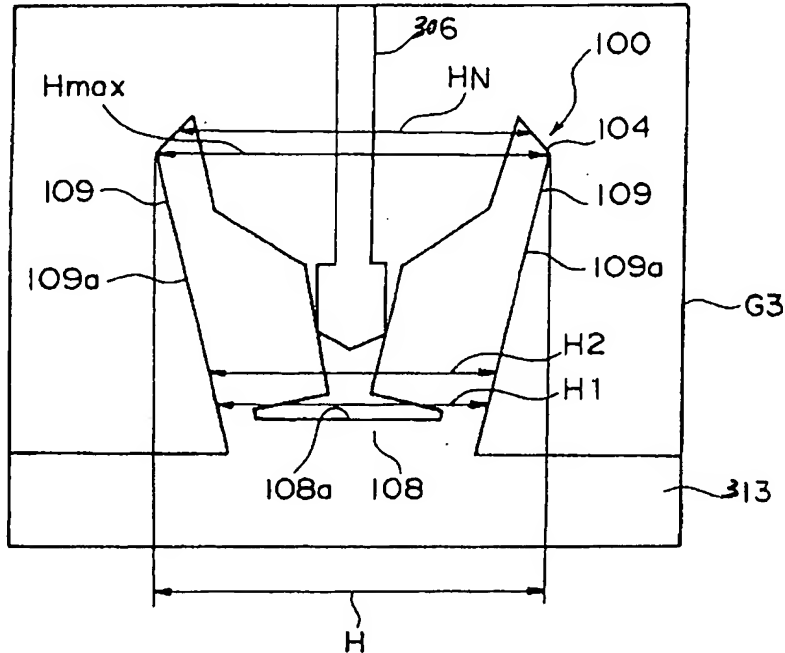
[書類名] 図面

[特許] 2002-352873 (14. 12. 04)

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[図17]

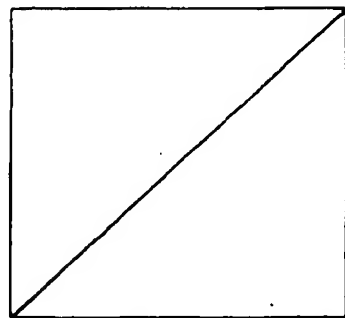
Fig. 61



[図18]

Fig. 62

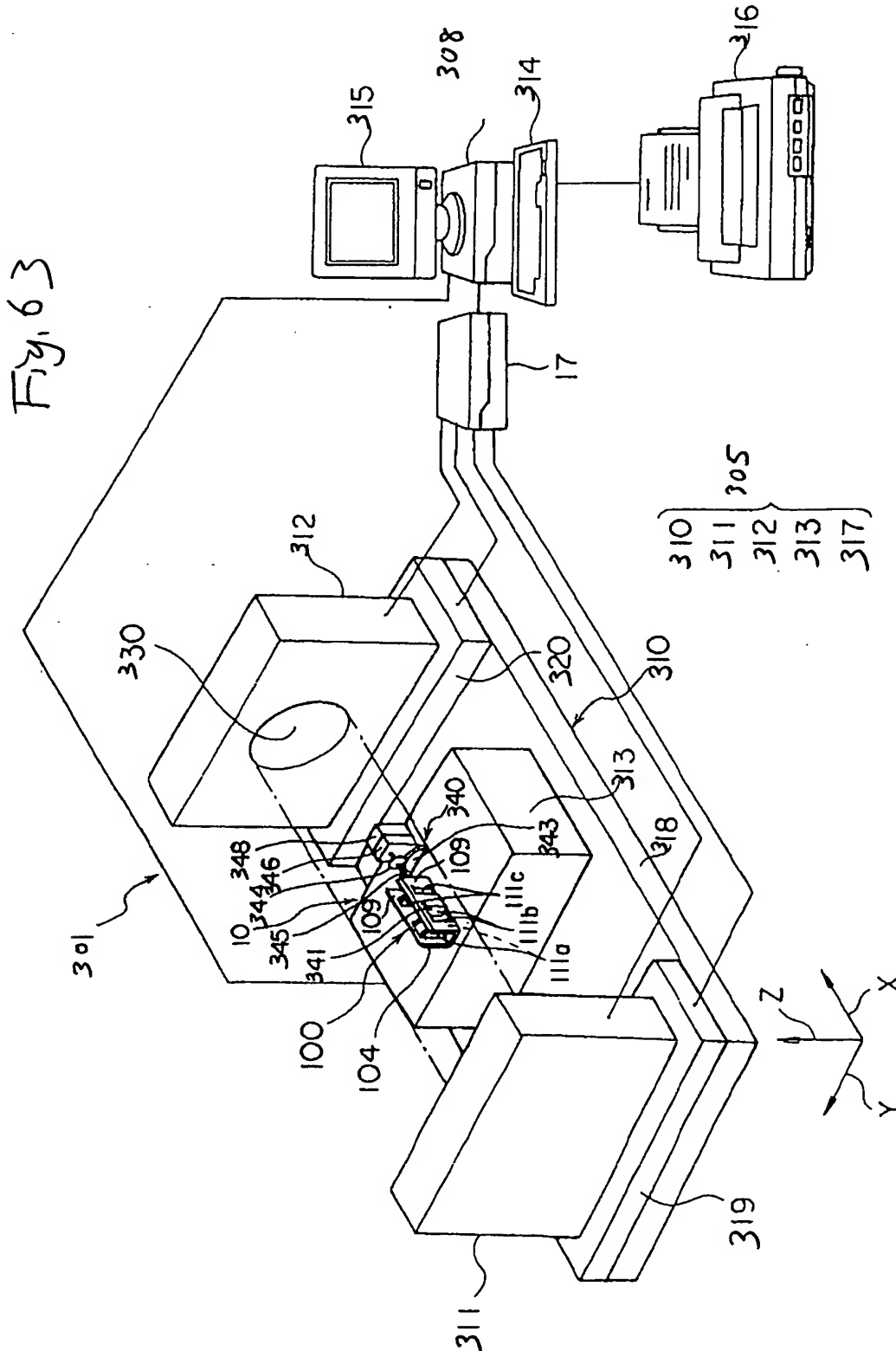
側壁間の拡がり  
(圧接刃の変位)

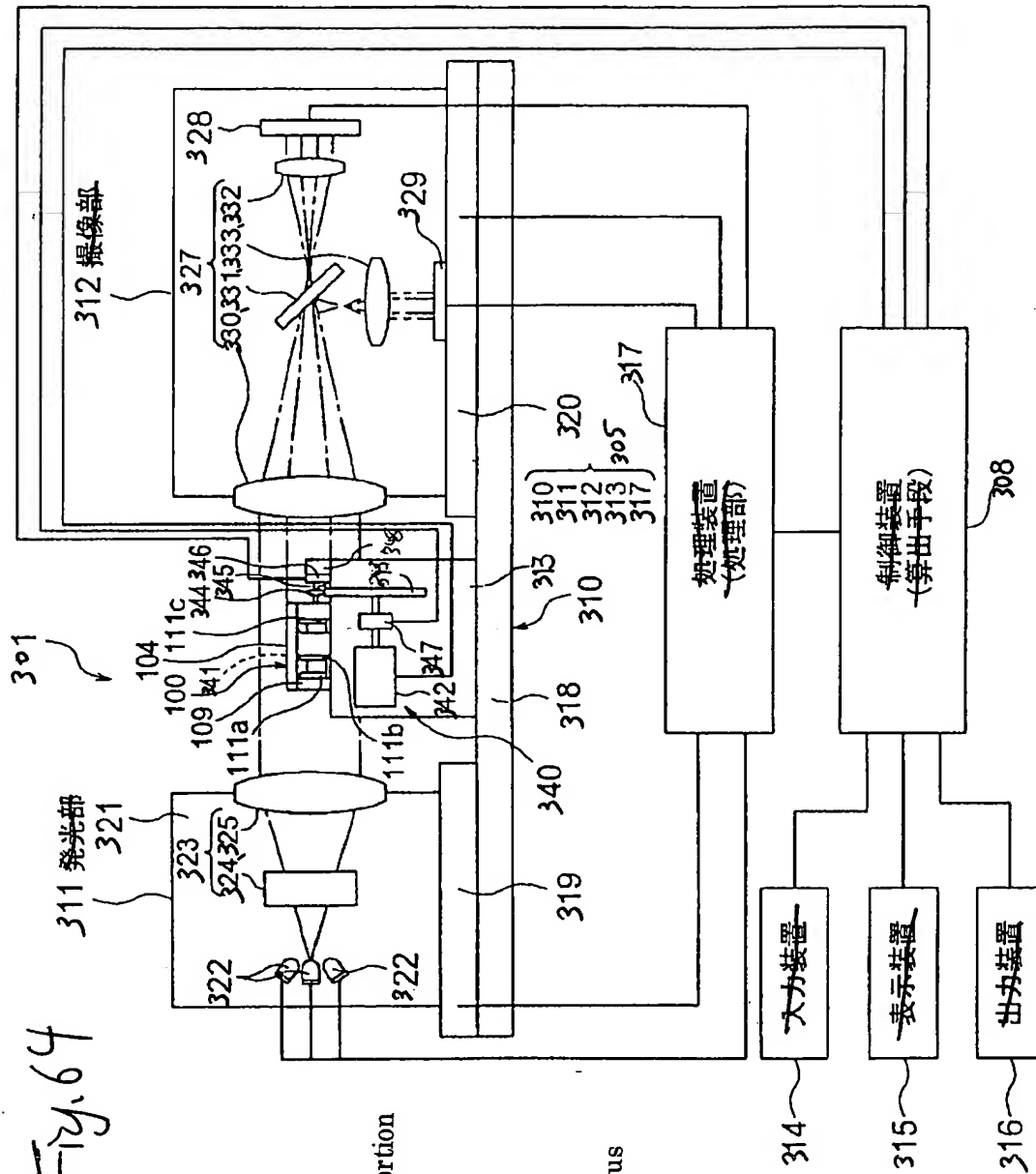


接触荷重 (P1+P2)  
 Contact Load

Expansion Amount Between Side Walls  
 (Displacement of Press contact Blades)

【図19】

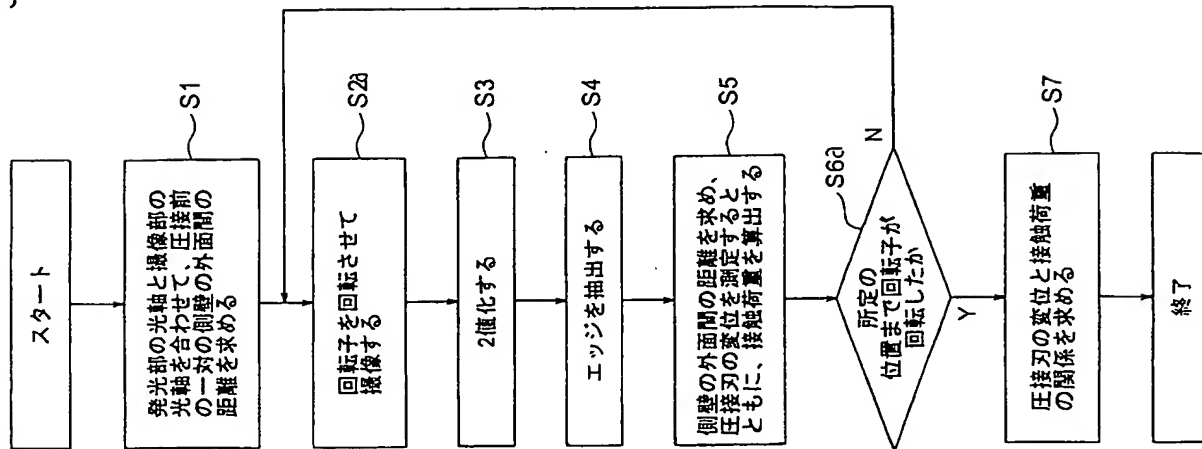


~~【圖20】~~

306: detector moving portion  
308: control apparatus  
314: input apparatus  
315: display apparatus  
316: output apparatus  
317: processing apparatus

図21

Fig. 6S



start

S1: coincide optical axis of light emitting portion with optical axis of image pickup portion and acquire a distance between outer faces of pair of side walls before press contacting

S2a: rotate rotor and pickup image thereof

S3: binarizing

S4: extract edge

S5: acquire distance between outer faces of side walls, measure displacement of press contact blades and calculate contact load

S6a: is rotor rotated by predetermined position?

S7: acquire relationship between displacement of press contact blades and contact load

end



[図 26]

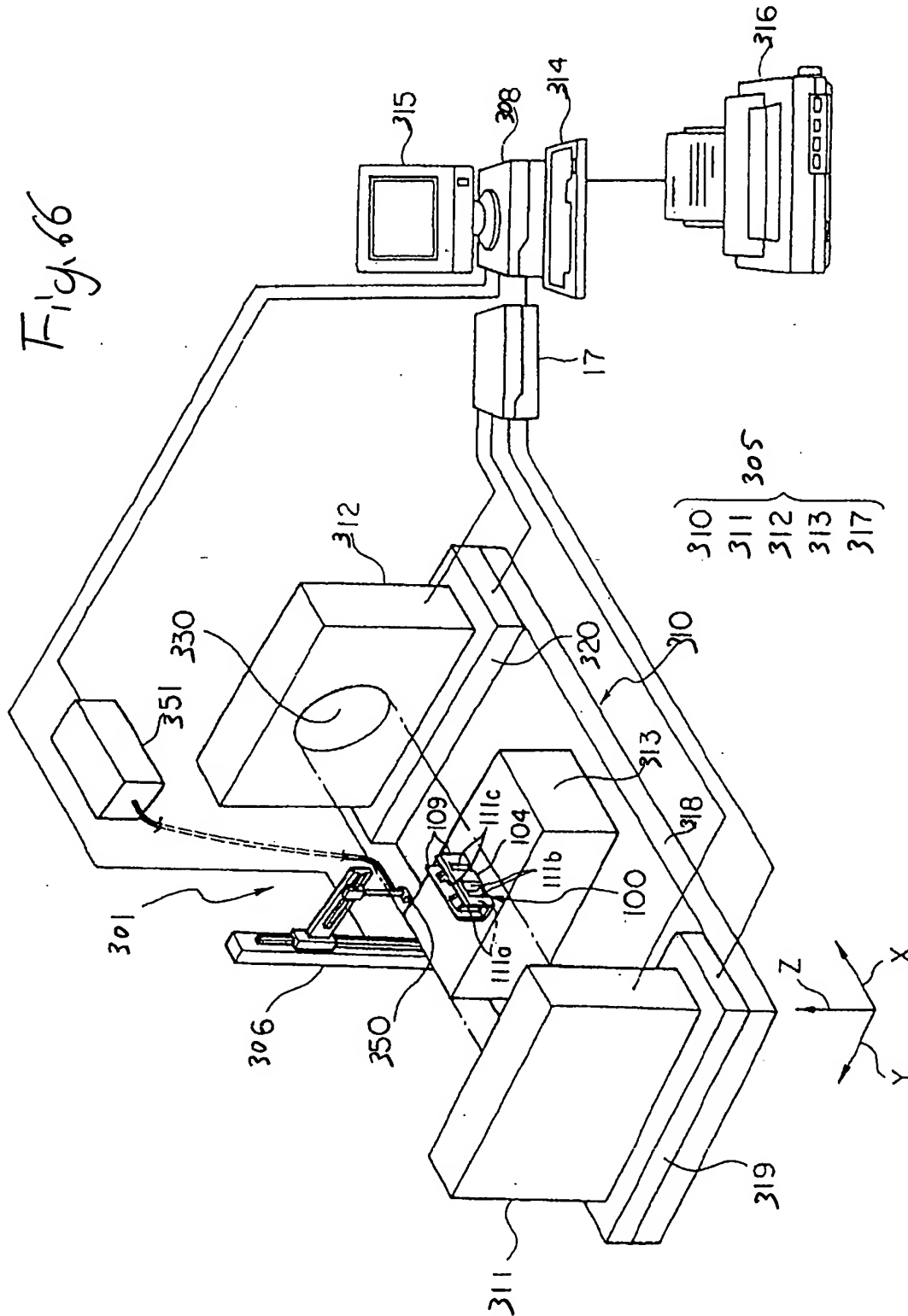


Fig. 6

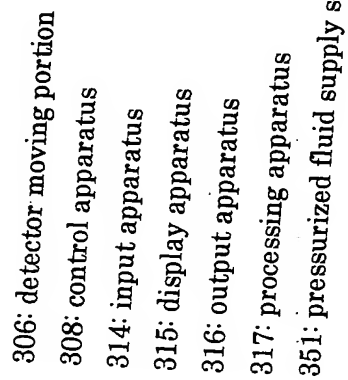
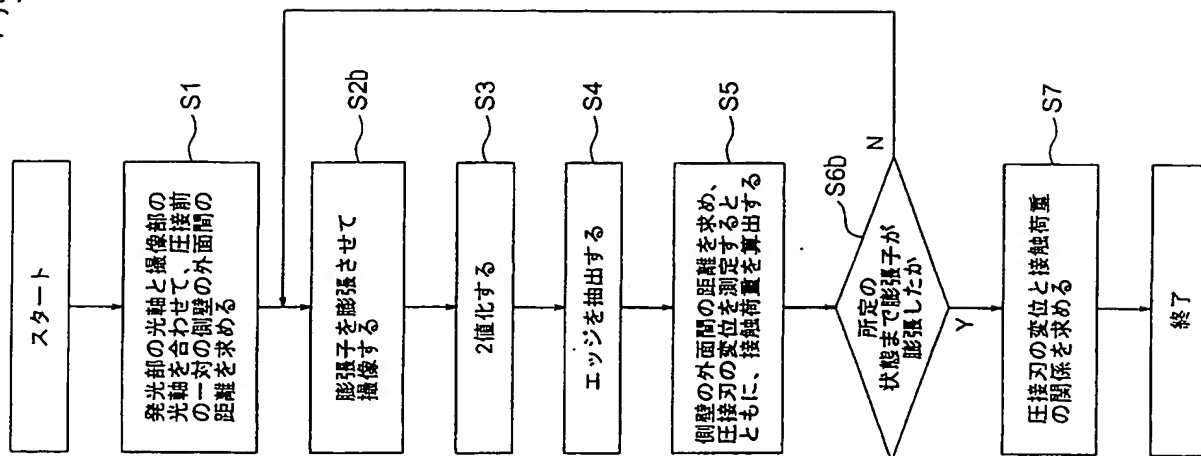


Fig. 68



start

S1: coincide optical axis of light emitting portion with optical axis of image pickup portion and acquire a distance between outer faces of pair of side walls before press contacting

S2b: expand expander and pickup image thereof

S3: binarizing

S4: extract edge

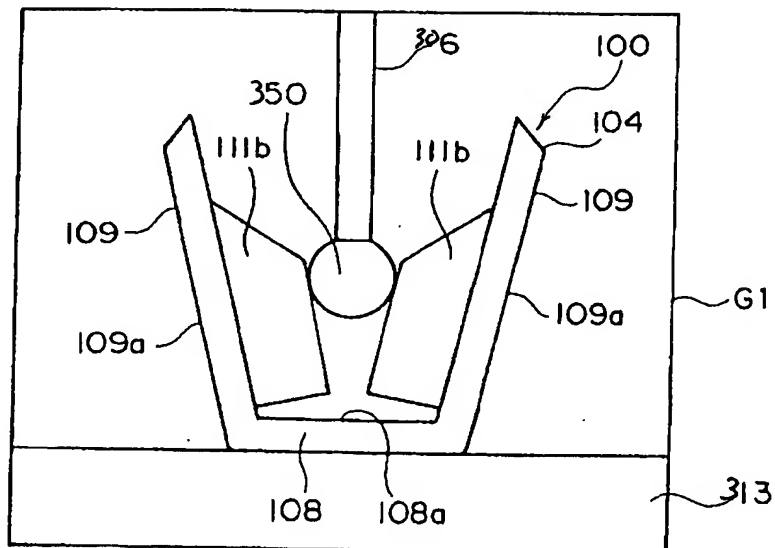
S5: acquire distance between outer faces of side walls, measure displacement of press contact blades and calculate contact load

S6a: is expander expanded in predetermined state?

S7: acquire relationship between displacement of press contact blades and contact load

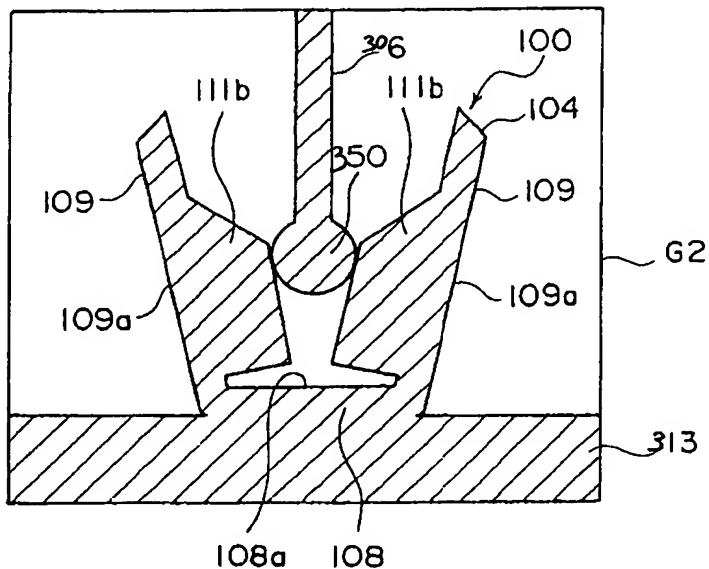
end

~~図 34~~ Fig. 69



【図35】

Fig. 20



【図36】

Fig. 21

